# AN INTRODUCTION TO SPECIAL SCHOOL WORK

M. F. BRIDIE

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BY

MARION F. BRIDIE, L.L.A.

ASSISTANT SUPERINTENDENT OF SPECIAL SCHOOLS, BIRMINGHAM
LECTURER IN METHOD TO THE SUMMER SCHOOL FOR SPECIAL SCHOOL TEACHERS AT BIRMINGHAM
DIPLOMÉE GRADUATE OF THE TRAINING SCHOOL, VINELAND, U.S.A.

WITH A FOREWORD BY

GEORGE A. AUDEN, M.A., M.D., M.R.C.P.

SCHOOL MEDICAL OFFICER OF BIRMINGHAM



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# PREFACE

The systematic education of mentally defective children has passed through various phases since its early days, while changes in both procedure and method have been frequent. Some theories have been discarded, others modified or strengthened, and new ones have been put forward. Most of this development has been brought about by the wonderful "enthusiasm for something and faith in something" of earnest workers. Carried out with enterprise and devotion until the merits of the movement have been recognized, these ideas have been communicated almost entirely by means of conferences and verbal intercourse.

There are, however, many young teachers opening new schools and taking charge of classes who will need several years' experience before they can hope to know the defective child sufficiently well to have any strong convictions with regard to his training. There are at the present time many who have undertaken this most arduous task with hardly any preparation for it; even now the number of those who have taken a special course of training for Special School work is an almost negligible percentage.

Nothing has been written for teachers from a purely educational point of view, or by a teacher of mentally defectives for others, yet one is continually being asked for a simple non-medical book for teachers.

This Introduction to Special School Work is an

attempt to fill the gap, and it claims to be mainly suggestive to those who can develop the ideas put forward as their experiences and observations accumulate.

To appreciate the difficulties of a beginner, it is essential to have experienced them, and yet not too long ago to remember how anxious a time it was, and how cheering gradually to pierce the clouds of difficulty.

In order to be helpful it is equally necessary to know many schools and institutions both at home and abroad, so as to compare and sift out the best from each. Many of the suggestions given here are developed from ideas gathered during a year I spent in Germany several years ago, when I visited over a hundred schools, mainly Special Schools; some, too, are the fruit of a visit of several months' duration to the eastern United States in 1914, where I saw over forty schools. The experiences gained in these countries and in many towns and cities of England and Scotland have been of exceptional value to me.

If my little volume proves to be of service to teachers in helping them to make the mentally defective children in their charge more useful, more self-respecting and happier, it will have fulfilled its purpose.

M. F. B.

*January*, 1917.

# FOREWORD

BY

GEORGE A. AUDEN, M.A., M.D., M.R.C.P.

The definitions of Feeble-mindedness, Imbecility and Idiocy which were accepted by the Royal Commission for the Care and Control of the Feeble-minded, and have, more recently, received legal sanction in the Mental Deficiency Act, lay stress upon the inability for self-support as the main criterion. These definitions, although not altogether satisfactory from a scientific point of view, are valuable in that they reveal the true meaning of the problem of feeble-mindedness, *i.e.* an incapacity for the complete fulfilment of the duties of membership of a social community. In less highly developed societies, only the grosser degrees of feeble-mindedness will obtrude themselves, and the presence of these less adaptable members is accepted without question, or they are regarded with superstitious awe and reverence as mysterious manifestations of "the power in darkness whom we guess." The attitude of the Muslim world to the idiot and imbecile well exemplifies this atmosphere of superstitious reverence with which such a condition is surrounded. The Muslim does not see in the inability to learn to speak anything intrinsically wrong with the mental development, but he regards the child as endowed with special powers denied to the rest of mankind. If the child is dumb, it is not because it

cannot speak, but because its thoughts are a vision of God which transcends human speech. Further, it is only the idiot who can see the garina, or evil double with which every human soul is indissolubly united. From the cradle to the grave, this garina is ever on the watch to work evil on his human mate, and must accordingly be propitiated or rendered harmless by charms and incantations. This malign influence is especially dangerous at the time of child-birth, and, therefore, a mother, anxious to secure the safety of her child, tries, by gifts and kindness, to procure the presence of an idiot.

The gradual raising of the standard of mentality required for self-support is well exemplified by the references to the subject which are to be found in English law, and in the gradual narrowing of the legal definitions until the present time is reached. The introduction of new terms to describe newly recognized degrees of mental deficiency is evidence in the same direction. The term "idiot" originally included all forms of congenital mental deficiency in contradistinction to lunacy or acquired defect. The limitation of the word "idiot," with present connotation of congenital mental defect of a profound character, appears to have been a gradual one. The earlier meaning of one without professional knowledge, *i.e.* a simple man, appears to have existed for some time side by side with that to which it is now restricted. This is seen in the title under date 1657, "The Devine Lover or the Saintly Ideots Devotions." A quotation from Boyle's "Experimental and Natural Philosophy" makes this still more clear: "Idiots admire in things the beauty of their materials, but artists that of the workmanship."

The term "imbecile" does not make its appearance

with its present meaning until considerably later; originally denoting weakness or feebleness, *e.g.*, "imbecille wynes," it seems to have acquired its present significance in the earlier half of the nineteenth century, as is seen in a quotation from De Quincey (1845): "But he had the misfortune to be imbecile—in fact, he was partially an idiot." (Murray's Dictionary.)

By virtue of his inability "to manage himself and his affairs with ordinary prudence," the idiot or natural fool, a "*nativitate mente captus*," as he is described, was judged by Law to be unable to hold property, which accordingly reverted to the King, who in return was theoretically under the obligation of supplying him with food and sustenance only. Milton in his "Tenure of Kings" puts the matter clearly: "By the civil laws a fool or idiot born shall lose the lands whereto he was born *because he is not able to use them aright*."

The earliest definition of the amount of mentality which constituted the idiot shows that the standard was by no means exacting:

> "An idiot or a natural foole is he who, notwithstanding he bee of lawfull age, yet he is so witlesse that he cannot number to twentie nor tell what age he is of nor knoweth who is his father or mother, nor is able to answer to any such easie question." *

As a test of general intelligence these conditions no doubt formed a sound working basis, but if applied under the organized educational systems of to-day, would allow nearly all the children who are included under the provisions of the Education (Epileptic and Defective Children) Act, 1899, to be classified as normal.

A legal definition given a century later by Hale (1670) in connection with the question of criminal

* 1590, Testamente ii. 39.

responsibility shows that by that time an advance had been made, and that some kind of distinction was now recognized between the true idiot and the higher grades of feeble-mindedness:

> "The best measure, I think, is this: such a person as, labouring under melancholy distempers, hath yet ordinarily, as great understanding as a child of fourteen years hath, is such a person as may be guilty of treason or felony."

From this ruling it is clear that a person whose mental equipment fell short of the average natural intelligence was presumably unable to recognize the nature of his actions and accordingly could not be held responsible. The subject of criminal responsibility has continued to exercise jurists, and the line of demarcation between the lunatic and the idiot (using the term in its wider sense) has gradually become marked out more clearly, although the distinction still presents very great difficulties in the interpretation of criminal law. Although it attempts no definition of the term, the Idiots Act, 1886, marks a new step in this evolution. It was their contact with the law that first called attention to the existence of the high-grade feeble-minded, who show little or no appreciable intellectual deficiency, but are unable to conduct themselves in consonance with the dictates of conscience, law or convention.

The term "Amoral Imbeciles" appears to have been applied to such persons for the first time as early as the year 1836. It is difficult to determine at what period the phrase "feeble-minded" came first into use. Another term, which though used on the Continent has unfortunately never come into general use in England, is "feebly-gifted," * which admirably describes the slow-

* German "swach begabte." Norwegian "svakt begavede."

witted children who form a class on the borderland of feeble-mindedness. It appears to have been introduced by Mr. C. S. Loch, in 1884. *

It is not a little remarkable that some of the most acute descriptions of the mentally deficient person may be found in the pages of romance. Victor Hugo's Idiot of Notre Dame, Dostoevski's Smerdyakov, and the realism of his description of the degenerate family "The Brothers Karamazov"; his study of the psychology and the epileptic in "The Idiots," and to a less extent Dickens' "Maggie" in "Little Dorrit," are pictures drawn from the life by a master hand.

To Gheel, in Belgium, the colony founded in the thirteenth century in memory of St. Dymphe, is given the credit for the earliest efforts to care for the feeble-minded; but the first organized attempts to improve the condition of the idiot and other physically handicapped children had their origin several centuries later in the growth of that sense of personal responsibility in the welfare of the less fortunate members of the community, which marked the second half of the eighteenth century, and which has been well described by Sir John Simon † as the period of "*new moments.*" The history of all philanthropic movements shows that the enthusiasm and personal devotion of one man becomes an inspiration to others, whose influence spreads in an ever-widening circle until the nation as a whole becomes alive to a truer appreciation of its responsibilities. This is the history of the abolition of slavery, the humane treatment of the insane and the reform of prisons. Thus it came about that Rodriguez Pereire (1715–1780), a young man living in Paris, falling in love with a deaf mute girl,

* "The Feeble-Minded," published by the C. O. S.

† "English Sanitary Institutions."

determined to devote himself to the education of deaf mutes, a group in which it was, and still is, difficult to separate the intelligent from the feeble-minded. In 1749 he showed his second pupil at a meeting of the Academy of Science in Paris, and such was the notice attracted by his success, that ten years later he was elected a fellow of the Royal Society. Amongst his friends was Rousseau, and it is not difficult to imagine that he must often have discussed his theories with the author of "Emile." It was a time of intellectual ferment, and the new theories of the "*Contrat Social*," and the rights of man were reflected even in the treatment of the feeble-minded, while the cry of Liberty, Equality, Fraternity, pierced even into the recesses of the madhouse. In 1792 Philippe Pinel (1745–1826) was appointed Physician to the Bicêtre, an institution then, as now, including a large number of idiots amongst its inmates. He signallized his appointment by striking off the fetters which bound his patients, with results as satisfactory as they were revolutionary in the history of asylum management.*

In 1799 the famous discovery of "the wild boy" in the forest of Aveyron gave the long-looked-for opportunity of putting to the test the theory of "the natural man." Unable to speak a single word, Pinel pronounced the boy to be an idiot, and, therefore, incapable of teaching. Itard, † upon whom had fallen the mantle of Pereire, on the other hand, undertook to teach him. He failed, but his failure showed how much could be done in the way of training an idiot, while the notoriety and romantic interest which attached to the case, together with his suggestions for treatment, gave the necessary impetus

* In 1792 William Tuke founded the Retreat at York for the humane treatment of the insane amongst the Society of Friends.

† 1801. "De l'education d'un Homme Sauvage."

to further work in this direction, and greatly helped to centre attention in France and elsewhere upon the possibilities of training for the feeble-minded.

In 1828, Dr. Ferret, who had succeeded Pinel at the Bicêtre, made an attempt to teach a few of the more intelligent idiots to read and write, and to train them in habits of cleanliness, while at the Salpêtrière, Itard, in collaboration with Esquirol (1772–1840), who had been assistant to Pinel, began his series of observations on idiot children. Their pupil Edouard Séguin, who had established a private school in 1837, was appointed instructor to the class at the Bicêtre. Driven from Paris by the Revolution of 1848, Séguin migrated to America, whither his reputation had already preceded him. Under his influence institutions were established in various states. The institution now known throughout the world for the splendid work which has been done therein as the Massachusetts School for the Feeble-Minded was the first to be opened, mainly through the labours of Dr. S. G. Howe, in October, 1848. There are still preserved in Waverley some of the pieces of apparatus for sense-training designed by Séguin. His methods were described in his work "L'idiocie," which was republished in English in 1866,* and which has remained a classic, for it laid the true foundations upon which all subsequent work has been based. It was from Séguin and his book that Madame Montessori† has drawn her main ideas and upon which she has admittedly based her method of education through the senses by means of her "didactic material," much of which is identical with Séguin's apparatus.

The Boston School was soon followed by that at

* "Idiocy and its treatment by the Physiological Method."

† The Montessori Method.

Albany in the State of New York, opened in 1851, and that at Syracuse under Dr. H. B. Wilbur. The Pennsylvania Training School at Elwyn came into being in 1855, and that at Columbus (Ohio) in 1851. Meanwhile England had not been behindhand, and the first school for defectives was opened by Miss White at Bath in 1846. The Royal Albert Asylum, Lancaster, founded by Mr. James Brunton, a member of the Society of Friends, was opened in 1864, while institutions were established at Earlswood and Colchester about the same time.

The history of the attempt to ameliorate the condition of the cretins in Switzerland is in many respects similar. The attention of a young physician, Dr. Guggenbühl, was one day arrested, while riding down a mountain road, by the sight of a cretin kneeling at a wayside cross mumbling an unintelligible prayer. That same evening, Guggenbühl vowed to dedicate himself to the service of the cretins, and in 1842 he established his colony school at Abendberg. The results of the treatment, and the perhaps over-sanguine expectations which he raised, focussed attention throughout Europe upon the great possibilities which were open to improve the lot of these unfortunates, before the discovery of the true cause and physiological treatment of the condition. The epileptic defective also became the subject of philanthropic care, and, encouraged by the favourable results of the Abendberg Colony, similar institutions were established for Epileptics in Germany and elsewhere. At Alsterdoff Pastor H. M. Sengelmann opened a colony, and another similar colony was founded at Beilfeld, Westphalia; both of which have grown to a large size and have served as an example for similar institutions in England and America.

In Germany the first school for the feeble-minded was opened in 1842 by Dr. Saegert in Berlin, and a quarter of a century later a private school was founded by Herr Lippestad in Christiania. This was afterwards taken over by the State.

Mention has already been made of the early institutions established in England. These, however, were for residential cases, and it was not until elementary education had become general as the result of the passage of the Elementary Education Act, 1871, that it became recognized that idiots and imbeciles formed merely the lower end of a scale of intelligence and that all grades of feeble-mindedness existed, passing in a series through various grades of the slow-witted or feebly-gifted, up to the merely backward, or retarded children. The influence exerted by faulty environment, insufficient food, poverty and ill-health, was also noted to re-act disastrously upon the mental receptivity of the children whom the Education Acts brought into school. The disabilities of the blind and the deaf were naturally the first to be considered, and their education became compulsory under the Education (Blind and Deaf Children) Act, 1893. To Leicester belongs the credit of the first establishment of classes for the feeble-minded, but the example thus set was soon followed by the School Boards of London, Birmingham, Bradford, and other large towns. The experience thus gained revealed the extent of the problem, while the increased interest in social welfare which marked this period showed that feeble-mindedness is one of the protean facts which lies at the root of many other problems which affect the well-being of the community, *e.g.* vice, drunkenness and crime. An Interdepartmental Committee appointed in 1897 collected a large amount of evidence, the direct

result of which was the passing of the Education (Epileptic and Defective Children) Act, 1899. Few Education Authorities took advantage of this permissive Act, and it was not until 1914 that provision for the education of the feeble-minded became a statutory duty of all Education Authorities. In the meanwhile, however, the Royal Commission for the Care and Control of the Feeble-Minded, nominated in 1904, had made an exhaustive study of the whole question. Their monumental report was issued in 1908, and every effort was made to arouse the interest of the public in a subject so important to the community at large. Various circumstances, however, intervened to prevent consideration by Parliament, and the Mental Deficiency Act only came into force in 1914.

Thus it has, at last, begun to be understood that the mentally deficient child is a citizen, imperfect it may be, but one who, by virtue of that citizenship, has a right to such training as is suited to his limited capacities and to such care and protection as shall save him from those physical and moral dangers to which his imperfect intellectual powers make him liable. He is ceasing to be a mere object of charity or of sentimental interest.

The study of his training and special education is now a subject which requires constant and careful consideration. In the following pages are found suggestions and methods based on the fundamental principles laid down by Séguin and other educational pioneers, while the details are worked out by one who has brought intimate study, pertinent observation and wide experience to bear on the subject in hand. There are, indeed, great possibilities of improving the feeble-minded, and of making him a self-supporting citizen; but the fact must never be lost sight of that, though Education can *mould*,

it cannot *create*. Such faculties as may be present should be trained to the fullest use of which they are capable, and such aptitudes as are shown should be allowed the freest play, for of the feeble-minded above all others it is true that

"non scholæ sed vitæ discimus."

GEORGE A. AUDEN.

EGYPTIAN EXPEDITIONARY FORCE,
*December*, 1916.

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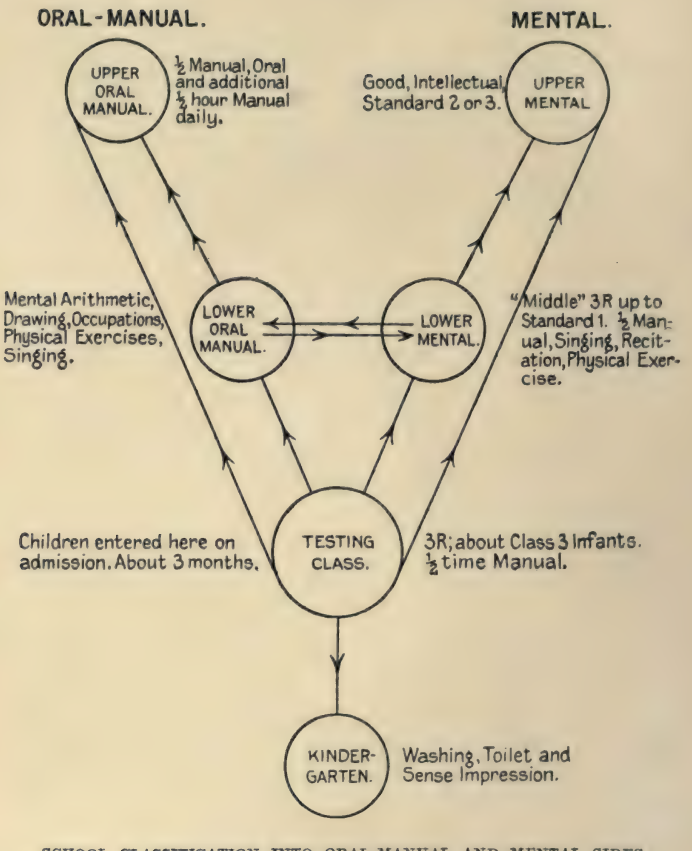


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# AN INTRODUCTION TO SPECIAL SCHOOL WORK

## CHAPTER I

### THOSE LESS FORTUNATE IN MIND

Many and varied are the terms applied to the mentally defective; some are technical, some are legal, while some designate a particular type or grade of defect. I think, however, that no term conveys quite the fullness of meaning implied in the phrase, "Those less fortunate in mind." All kinds and all grades come within this term, while it seems to indicate the attitude and position of those who are associated with them for their welfare in a wonderful and delicate way. Those who are normal in mind, through no credit to themselves, will, out of sheer gratitude for their mental good fortune, make efforts to see that these others are cared for, sensibly and kindly, not regarding them as a burden but rather treating them according to their needs in order to compensate them in some measure for their deficiency.

At the present time we have a twofold reason for being especially anxious to care for the feeble-minded, partly a *social* and partly an *individual* reason.

From the point of view of the State it is right and just that we should do all in our power to raise the standard of living, and at the same time purge society of poor, weak

and degenerate stock, so that all our sons and daughters may be strong, intelligent, and responsible. With this in view, we must weed out the weakly, irresponsible, and irrational, look after them and in due course save them from themselves while protecting the future of the race.

The individual reason is understood by all who know the feeble-minded at all, for they realize how intensely such persons suffer by comparison with their more capable fellows. By transferring them to residential homes and special schools, we give them a chance to be happy and self-respecting among their equals, and, if at any future time they are allowed to go out into the world, they are equipped with some knowledge of vocational work which will raise them in the esteem of their comrades. If they need permanent care and control, by far the kindest course we can take is to keep them in a happy, comfortable home, where they will never know the difficulties of responsibility, nor need to take their part against sturdy normal beings.

The study of the treatment of feeble-mindedness is still in its infancy, while it is only during the last few decades that the feeble-minded have become more than a negligible quantity in school administration. This may be assigned to various causes, but probably the complications of modern civilization tend to reveal the subnormal, who, it is generally believed, have been there for centuries, but whose numbers have been small. Century by century the whole level of civilization gradually tends to rise, but in each epoch there have been some persons who were not on a level with the general standard of wage-earners and who could not comply with the ordinary requirements of social life in their time.

In the first few centuries such requirements were few; the usual occupations were hunting, fishing, and simple

farming for the man, and domestic pursuits such as cooking, the making of coverings and garments, for the women. Few persons were required to sign their names, to calculate more than the number of fish caught or the quantity of corn grown; few had any part in the difficulties of local government, or knew anything beyond the routine necessities of their lives. It is obvious that many now classified as feeble-minded could have taken part in such a life and would have appeared little different from their companions. They had not the capacity for modern civilization, neither had they the need for it, so in their time they probably passed as normal. Even in those times, however, one of the lowest grade of intelligence who could not support himself and failed to reach the general level was differentiated as a simple or fool.

Later, as civilization advanced, textile manufactures, leather dressing, and the making of pottery became the staple industries, while some further calculations, some judgment in the law of supply and demand, and some reasoning became necessities to the average worker. Some who would have been able to support themselves in an earlier generation, failed to accomplish their assigned tasks, were considered dullards and given simpler work to do, while a number of real defectives of a somewhat higher mentality were almost indistinguishable from the normal in this epoch.

Then during the nineteenth century a great advance was made; many of the children of all classes were taught in schools. For a long time this was a voluntary attendance and the parent paid a small weekly sum for the child. For this reason it is not to be wondered at that the bright children were sent to school and the dull ones were kept at home, because they were not likely to benefit so much by instruction. So, for a part of the last century,

dullness or backwardness on the part of a man or woman was frequently excused by his friends on account of his former non-attendance at school.

Finally, or we might almost say, firstly, after the passing of the Education Acts and the enforcement of compulsory attendance, it soon became apparent that those mentally incapable of reaching the normal standard were a continual drag on a class. Then it appeared that some who would have appeared normal in such things as field work, kitchen work, or even the making of pottery, failed to compete with the modern requirements of every-day life for which our elementary schools prepare.

I have no doubt that, within a few years, two other grades, which will need special consideration, will distinguish themselves from the others, viz.: the dull or backward and the super-normal.

Now there is no reason to doubt that in each of these generations the people of that time were perfectly normal and intelligent and had the potential capacity for improvement which is inherited by succeeding generations, although their duties only exacted of them the specified work. The feeble-minded have not that capacity for improvement to so high a degree, consequently their offspring could not develop at the same rate, and have become further and further behind the normal, while the number of defective persons becomes larger and more striking.

Moreover, the numbers have increased with startling rapidity during the last century. The preservation of life by higher medical skill has resulted in the survival of many unfit. Generations of neglect and sin have left their mark in the defective child of to-day, so frequently the offspring of defective parents. Intermarriages in country districts and the vacation of the villages by

healthy yeoman stocks have left weaklings in the rural neighbourhoods; while the herding together in the unwholesome slums of cities is in a sense both the cause and the result of the present position.

It was the revelation of this rapidly increasing evil which made the Royal Commission on the Care and Control of the Feeble-Minded (1904) an imperative necessity. The report of the Commission gave some account of the work which had been done during the last half-century or more in the large voluntary institutions of our own and other countries; it showed, above all, the vital urgency for care and protection for defectives, and recommended that this should be considered a national duty. The outcome of this effort was the Mental Deficiency Act, 1913, and when this (with its complementary measures Elementary Education—Defective and Epileptic Children —Acts, 1899 and 1914) comes into full force, a scheme should be in vogue whereby suitable care and instruction in day school, residential school, home, or colony will be provided for every defective person in the land. Each one will be suitably prepared for his future whatever that may be presumed to be. There is a place for every one in this world, where his little bit of work can be of use, for we shall always need the "hewers of wood and drawers of water," just as we shall always need the skilled manufacturer and the university professor.

As civilization grows upward, so education must fit every child for his place. There are many kinds of work suitable for defective persons if only they are thoroughly prepared for it. Every chance should be given to those who can and who desire to use their capabilities for the higher tasks, and each must be fitted for his life's work. This is a wide subject, but the question with which we are dealing mainly in this book is the education given

to the children in the Special Schools for the Mentally Defective.

The real crux of the whole matter of their education seems to me to be admirably expressed in Professor Johnson's Annual Report of the Training School, Vineland, U.S.A., and I cannot do better than give the words here :—

" The true education and training for girls and boys of backward and feeble minds is to teach them what they ought to know and can make use of when they become women and men in years."

It is necessary then to determine for each individual first of all what he " ought to know." It is said that the first essential is Reading, as this opens up a great field of knowledge and occupation. But is this after all so vital? Some have deplored the waste of time spent on arithmetical calculation and have lost sight of the possibility of such a dilemma as total incapacity for counting change up to a few shillings. Is this also vital ?

These questions will be discussed in due course, but the main point to emphasize here is that each individual child must be educated in view of his own probable future. Will he require to be sent to an institution, either on account of his own defect or on account of home circumstances ? Does he live in a congested city or near a country district ? How will he probably spend his leisure hours ? These are questions which every teacher will require to answer as definitely as possible early in the school career of each pupil.

But at the present stage the most definite decision is little more than a working hypothesis which will probably be modified, adapted, and varied frequently. The study is new and the teaching of the mentally defective hardly a century old. It is therefore quite a peculiar pleasure

for those of this generation to make their tentative trials and experiments and to know that the best of their work may form the foundation of the ever-perfecting work of succeeding generations. We are beginners ; it would be an insignificant work if we could bring it to perfection in a few years. Therefore, our whole attitude is that of learners, and gratefully should we learn from those " less fortunate in mind."

**What is Mental Defect?**—To answer this question adequately would require the combined knowledge, experience and erudition of psychologist, biologist, pathologist, and pedagogue, and even then we might feel that the definition was incomplete.

Here, however, the subject cannot be approached in any but the simplest and most elementary manner, and it is hoped that the points put forward will rouse the interest and direct the attention of young teachers who have opportunity for making an intimate study of mentally-defective individuals.

Perhaps a wide general explanation of mental defect can be given to the beginner by means of a rough simile.

We might liken the development of the brain to the development of a photographic plate. In the exposed plate there are certain hidden potentialities which reveal themselves gradually under certain treatment. At first, as the developer flows over the plate, the gross structure of the image appears ; later, with careful judicious application of the chemical, each part of the plate is evenly developed, and eventually every detail of the negative picture stands out clearly. The plate is then fixed and the development arrested just at perfection.

But the plate may be a poor one, due perhaps to external conditions such as lack of sunlight, or to internal

conditions, such as poor material, flaws in the negative, or other causes ; it has not, therefore, the same potentiality as the perfect plate. When it comes to be examined, it is found that it will not develop beyond a certain point, and may begin to degenerate if forced ; it must then be permanently fixed as a blurred, indistinct image in which some or many of the essentials of the picture are to be seen, but so devoid of accuracy and detail that the negative is of very little use.

So it may be with the brain. A healthy normal brain will develop easily and naturally under ordinary conditions of education and training. In the defective, the brain substance may be poor in quality and deficient in those cortical cells which are so important in the structure, or it may lack nourishment owing to surrounding physical conditions, lack of fresh air, or want of food. Then when treatment, in the form of education, whether of school or of the world, is meted out, it fails to reveal clear, thoughtful reasoning, sustained power of attention, accurate memory, etc. The whole result is uncertain, irregular, disproportionate, muddled and generally weak ; it is, in fact, mental defect or amentia. This suggestion may make a useful hypothesis for the work of teachers in the study of defectives.

To carry the example a little further, one might add that the dropping of any injurious acid on any part of the plate may spoil that part and yet leave the rest of the plate clear and unaffected.

The normal fully-developed brain may be attacked by insidious local disease which will cause serious injury to one area, leaving the other portions of the brain almost as clear and perfect as before. This breaking down of a developed brain is known as dementia or insanity.

This breaking down may occur also in an undeveloped

brain, and is a condition occasionally found in mentally defective persons. It is important that the teacher be informed by the certifying medical officer in the case of a child in whom this condition is diagnosed or suspected, as serious harm may ensue from overstrain or pressure.

**Backwardness or Mental Defect.**—Mental defect can be improved to a considerable, though varying, degree by a careful training, but the subject will never become entirely normal.

There is, however, a real danger of confusing mental defect with slowness of development or backwardness.

To return to our photographic simile : In every plate, perfect or imperfect, as in every brain, the large gross structures are first revealed and the finer delicate details appear later. It may happen that, owing to some condition, climatic or otherwise, a plate takes a long time to come to perfection, considerably longer than ordinary plates and longer than the photographic rules recommend. This plate cannot remain in the developer with the other negatives, but it is treated by itself with chemicals slightly stronger than usual. However—this is the important point—when complete it will be almost as perfect as the normal plate and probably neither blurred nor confused in any way, although it has required a considerably longer time to bring it to completion.

In a like case is the brain of slow or backward development. Children with such slow-working brains require to have a subject more fully explained than normal children before grasping it, and often, missing certain points, they are unable to make a connection in the ordinary way and thus appear dull and stupid. Moreover, as they are so slow of comprehension, they tend to become confused, disheartened and inert, conditions which

are easily confused with mental defect. To bring up such a child to the Medical Officer for admission into a special school without most careful consideration and testing is to do the child a grave injustice, for this is a condition which is much more difficult to diagnose at one short examination than real mental defect.

Among the chief points to be considered in diagnosing mental defect are the powers of *attention, concentration, memory,* and *reasoning.*

In *attention* and *concentration,* a normal being can attend only while he is following up a series of thoughts or chain of ideas. A dull slow child can attend well, provided that the points of the lesson are sufficiently impressed and slowly and clearly given. As a rule, with the merely dull and backward child, attention is soon gained and easily sustained so long as he can go at his own pace, as in such things as written and hand-work. When the lesson goes on too quickly he loses points and is unable to follow, and it is then that his attention wanders. On the other hand, the real defective usually attends spasmodically and his attention is easily distracted by any fleeting, suggestive idea, while frequently he seems to be thinking of nothing at all.

The next point to be dealt with is *memory.* The slow child takes so long to master, say, each line of a piece of poetry, that the normal children of his class may have completely learnt the whole before any one part has become thoroughly known to the slow one. Sometime later, when he cannot remember it, he is said to have a poor memory, as he is unable to repeat poetry recently learnt, whereas, probably, the reason is that he has never really known it. This condition is, apparently, closely allied to the mentally defective condition, in which the child does not remember accurately a piece of poetry.

But while our defective child may have known the piece perfectly for several days, he may then forget it, leaving out the most obvious words or lines.

A really defective child, given the most ordinary, simple premisses, often fails to make the connection which we call *reasoning*, although he knows quite well the main facts. A very slow child will often fail to remember all the facts, but when these are repeated and impressed, he will give the result of his reasoning, slowly but surely.

It is the same in Reading or in Arithmetic. Let us suppose that word-building is being taught on a certain root or a certain number is being studied; if our dull boy is not given sufficient time, he does not master that root or that number, and will most certainly confuse it with the next day's lessons and fail to know anything about it accurately. Further, the dull child may be slightly deaf or slow of comprehension, giving an appearance of defect in being slow to answer a question. This possibility should be most carefully investigated before reporting a child for examination for a Special School.

Children may develop regularly, rapidly or slowly. This is wonderfully demonstrated by the Binet-Simon Scale (see page 223), by which it may be shown that normal children progress sufficiently to answer one year's tests, or possibly slightly more than that, every twelve months. They should be tested annually on their birthdays by the same investigator so that the test periods may be uniform. Brilliant children at certain ages seem to progress about three years mentally while passing two chronologically. On the other hand, the defective child besides being behindhand in basal year progresses less than one year's tests in one year. Moreover, he may become slower in his progress, making perhaps four points one year, three the next, two the next, until he finally

reaches his limit and comes to a standstill. But the backward child, although he may have lost a few points early in his race, will continue to pass one full year's tests each year, and may even pass one or two points extra as he gets older and his circumstances or physical condition improve. From this it will be seen that these tests may be used to show if the rate of progress is normal, rapid, or slow, and are a considerable help in distinguishing backward from mentally defective children.

Two aspects of mental difficulty which present themselves in varying degrees in all defectives are mental inertia and mental confusion.

Mental inertia, beginning often as dreaminess and spurious goodness in the tiny child, grows and increases to such an extent that the child becomes less and less inclined to exert himself to think or to learn, and unless roused will become stagnant and torpid. This can be prevented only by the direct intention of the child himself; placid and passive amusement will not rouse, but some clear definite thought may be induced by well-arranged handwork inducing vigorous attention, while concentration can be improved by gradually leading up from short simple lessons to longer ones with a continuous thread of interest. For little children plenty of kindergarten games are a great help; while the older ones can be much improved by organized and co-operative games.

Mental confusion is one of the most significant features of our children. This comes partly from their inability to learn anything thoroughly, and from the curious way in which they will forget notable points and remember haphazard unimportant details. It is partly due also to the combination of childish outlook and the maturity due to having actually lived in the wide world during a number of years. They are influenced more and more

each year by their surroundings and learn from them; but much of what they absorb is regarded from the point of view of an undeveloped child, hence this discouraging confusion.

It is certain that a close resemblance exists between spurious defect due to backwardness or slowness and real mental defect. It is certain also that the dull and backward child has no place among mentally defective children, and equally that he has no place in the ordinary elementary school. Surely, then, the least we can do is to provide classes, ungraded, opportunity, auxiliary, retarded classes —call them what we will—to give instruction to the backward child at the rate at which he requires it. I think the Backward class could quite well form a part of the special school unit, for surely backward children who are so nearly normal should have the best possible chance to develop into normal citizens. These children especially would need to stay at school for a year or two longer than their comrades in the ordinary elementary schools in order to make up in time what they have lost by lack of speed.

The MORAL ASPECT of mental deficiency is so closely allied to the mental aspect that it is difficult to differentiate between them. Without entering at all into the psychology of the matter, it may be possible to divide this moral aspect roughly into two parts—attitude towards self, and attitude towards others and things.

*Attitude towards self* is one which is early formed by home conditions and surroundings. The defective child, whether in a rich or poor home, whether spoiled or buffeted, only too soon realizes that he is a being inferior in most particulars to those around him. I say "in most particulars," advisedly, for every one knows how it feels to be inferior to his companions in one or two particulars,

although he is buoyed up with the half-conscious satisfaction that there are certain points in which he is quite equal to, if he has not even some advantage over his fellows. It is an utterly different matter to realize that every one around is better at everything. That feeling of inferiority increases with age, and becomes poignant at school after a time. Then appears that attitude towards self which develops along such curious and varied lines. In one, it may appear as a self-conscious, apologetic timidity, frightened at every word and hardly daring to perform any task. In another, it may appear as a heavy, dull lack of concern, difficult to rouse to any kind of responsibility or effort. Again, a kind of pride that will be infamous if it cannot be famous, causes the wild, careless attitude and silly affectation from which spring much naughtiness, particularly of the kind which revels in being laughed at by the others. Another ignores the feats of others and deliberately fastens on his own prowess ; this distorts his outlook to such an extent that he becomes that extraordinary self-centred, conceited being who is so pathetically amusing.

These are only a few of the many tendencies in the mentally defective which may be clearly traced to some warped attitude towards himself. Knowing this, we realize that we must probe the child's mind and find the fundamental cause for his behaviour and endeavour to clear up his apprehension, dispel the hidden fear of expression, direct his boisterous energy and carefully guide conceit to loyalty and self-respect. Having discovered and satisfied oneself as to the cause is not enough. These decisions need to be revised again and again for certainty, while unbiassed notes made about children at different stages are invaluable in the understanding of each individual.

*Attitude towards others* varies in accordance with surroundings and comrades. It becomes striking in the Infant School. A mentally defective child is much younger mentally than a normal child and frequently is just entering on a phase of the imitative period of babyhood when he enters the Infant School. In some ways he has a wider appreciation of his surroundings and combines with this an imitative tendency. This leads him into all kinds of mischief, while his lack of reasoning and judgment allows him to run riot with his imagination and imitation. To take a simple illustration such as may happen to anyone: in dreams we remember many of the actions seen around us in the past; we recall these memories and weave them together in the most incongruous ways without any common sense, reasoning, judgment, or sense of proportion. We have spent an amusing half-hour at the seaside throwing stones at a floating cork; the most humane among us may spend the night throwing imaginary stones at a dog with considerable enjoyment. For in our sleeping hours our thoughts are not under control. Some analogy may be found between this and the defective. He sees a certain action performed which may be quite reasonable and even laudable under the given circumstances; without thought or reasoning he copies this in totally different circumstances and produces a wrong action. The defective child acts largely in blind imitation as a little child might. Suggestion, too, plays an important part and is responsible for a great deal of wrong action through the thoughtless launching forth into the first idea that is suggested. The defective child has poor power of inhibition; with this is closely allied the poor power of self-control, restraint, will-power, power of attention and effort. This lack of power, alas! is the weakness which we must constantly

struggle to overcome if we would train the moral character of the defective.

All real education consists in stimulating the child's capacity for acquiring knowledge and his desire to increase that knowledge. In work with the defective this is more urgent perhaps than in any other work. No one can do much to help him unless he really desires to do it himself. To create that spirit of desire and effort is quite hard enough with normal thoughtless boys and girls, but with defectives the difficulty is incomparably greater. It requires the absolutely best, most far-seeing, most inspiring and yet most self-effacing teacher to create that spirit. I say "self-effacing" advisedly. The Rev. William Temple, in a wonderfully inspiring lecture to the Teachers' Christian Union, once said that the duty of the teacher was to become dispensable at as early a stage as possible. This is true of normal children, but how infinitely more necessary it is that the sub-normal should be helped up to be self-reliant, and self-controlled. It is imperative that they should learn to stand alone, to think and judge for themselves, and to control their own actions. The more we realize that a child will require supervision all his life, the more strenuously we will endeavour to train him to self-reliance. The widespread and deep possibilities of research and investigation in the case of each child are great, and one cannot in these few pages do more than touch on some of the most striking characteristics as they affect the training of the children. But it is sincerely to be hoped that every teacher will make notes on points of interest to him, and periodically sift, classify, and rearrange his findings so that they may be of value to himself and others. We want the best possible training for our defective children, and for that reason we want good methods, good schemes, good ideas diffused widely

throughout the world. Let us then each add our quota to the knowledge which we hope will help towards the perfecting of the training of the mentally defective in the days of the distant future.

Dr. Tredgold affirms after valuable investigations, that " the essence of mental defect is that it is incurable."

We know too that a proportion of our children will certainly be sent to residential homes eventually, and that many others will fail to " manage themselves or their affairs with ordinary prudence." Why then, we are tempted to ask, do we undertake such an apparently thankless and discouraging task ?

Let us consider for a moment the normal child. We hope and expect that every school-child will, on leaving school, follow some useful trade or profession, the best of which he is capable. Whatever that occupation may be, he would be of little use at it unless he had learnt many things at school which in one way or another tend to make him a more efficient workman at whatever work he takes up. He is therefore trained in school to use the highest power that he possesses—his brain power—to that end. He is trained to think and act intelligently and to adapt his knowledge to whatever work he may have in hand. Every normal child is given a good grounding in the work most necessary to him so that later on he will be able to develop along some particular line.

With the subnormal child the case is somewhat analogous. We try to give him a thorough and varied training in manual work so that he may be able to use some part of that knowledge in his later occupation or develop it along specified lines. Particularly are we anxious that each piece of handwork done should bring with it a definite lesson, and if properly graduated, the brain will

develop along natural lines just as that of a normal child will develop with his training, only of course on different planes.

By special training our children can be considerably improved, in response, alertness, discipline, and honesty ; they learn to think more clearly and to concentrate their attention on any task that they may have to do. They learn to control their fingers, their bodies, and eventually, to some extent, their impulses ; they learn to enjoy cleanliness, accuracy and carefulness and to take a pride in their work.

Therefore, knowing that our children cannot ever be normal, we aim at fitting them to fill their places in the best way we can for the best possible work that they can undertake, content even in failure, that our efforts have brought a few gleams of sunshine into an otherwise darkened world.

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| | |
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## CHAPTER II

### UNDERSTANDING

THE original intention was to call this a chapter on discipline, but it has been changed on consideration of the real meaning of perfect control. Good discipline is only reached by a double pathway of understanding: the thoughtful, growing understanding of the child by the teacher and almost equally an understanding of the teacher by the child, with some realization of the reasonableness of the aims of the former. The title of this chapter therefore intimates the striking characteristics of discipline.

There is no doubt that the chief and greatest difficulty in a Special School is found in this question of discipline. To be a good disciplinarian is one of the first qualifications required of a prospective Special School Teacher, though it is practically certain that even the finest teachers and leaders of children have been surprised and even daunted at the outset by the overwhelming problems which have confronted them in dealing with these exceptional children. Many a one, keen and clever though he be, has been repelled by the experiences of the first week or two, and many a one less strong has been obliged to confess failure in this particular. Now, however, in most schools the intending candidate is given a period of probation before being given a place on the

permanent staff of a Special School in order to gain some insight into the work and especially to study this problem.

The perfectly normal child in school is a good child, a child who by virtue of his natural mental aggressiveness enjoys activity of body and mind. He is anxious to be doing, and the nearest thing to his hand being "the doing" in the classroom, he accepts it eagerly, and having launched forth goes forward on the flood of his own activity. A well-balanced child governs his actions by his own common sense, his foresight and simple knowledge of right and wrong; his actions are ruled by his thoughts. He is, moreover, a person whose body is to a greater or less degree governed by his mind. This is demonstrated by drafting the Psycho Physical curve for various children as is done in psychological laboratories.

Six measurements are taken; the first three are those over which an individual has little or no control: the weight, sitting height and standing height. The other three are measurements of power under the control of an individual, and variable according to the conscious concentrated effort of the subject. They are left-hand grip and right-hand grip measured on a dynamometer and the amount of air expired measured by a spirometer. These measurements are calculated in a manner which need not be discussed here in accordance with results of thousands of tests with normal persons. From the first three is calculated one factor in the curve, and from the last three the other factor.

In examining numbers of defectives it is seen from these experiments that the physical capacity of mentally defectives is proportionately considerably greater than the intellectual power to control muscular movements.

It is easily understood that where the patient is

a stout, well-grown muscular youth with little understanding of what is required of him, the curve will be high on the physical and low on the intellectual side. Where the patient is a slight, delicate, studious man, who has, as it were, all " run to brain," the curve will be low on the physical and high on the intellectual side. Again, where a person is normal and well-balanced the curve will reach an almost equal position in both sections.

Now this is a supremely important factor to consider in dealing with the question of discipline of the feeble-minded. The body is frequently so strong that the weak mind is overwhelmed in its task of controlling it. Physical strength may be and usually is greater than mental power, therefore the child may easily get out of hand, and the violent bursts of temper or fits of uncontrollable giggling are in a measure due to this cause.

We find a somewhat analogous circumstance with normal children. How often the Cottage Mother taking children for a Country Holiday has complained bitterly that the children were so good at first but became riotous towards the end of their holiday ? Little did she realize that, as if fed on the " Food of the Gods," their physical strength had increased in the free fresh air at a much more rapid rate than their power of control, and so their minds failed at first to govern their healthy bodies until they had time and training gradually to gain control over this extra power. This being so with mentally defective children it behoves all those who have charge of them to keep a strong firm hand over them until good habits are formed in order to ease the strain on the self-control needed, or until such a time as the will power is developed and strengthened sufficiently to enable the child to keep himself in order. For, after all, the whole aim of discipline is to train the individual, not for the moment, but

for his whole future life. It is not sufficient to ensure the child's good conduct in school if he remains troublesome at home or in the streets. There is no child who can control himself without real and determined effort. Incentives are given in order to promote effort until habits are formed—supervision, help, and encouragement foster the effort. The criminal does wrong from having constantly allowed himself to be governed in multitudinous little ways by his self-indulgent, careless or evil habits. Older respectable people have constantly governed their actions by mental effort and reasoning until fixed habits of mind come to be established.

There is one type of child who often gets credit and commendation for a special goodness. The quiet lifeless little person, who is too dull to be tiresome, is often stolid through inertia, and he has not the self-control necessary to bring him out of his reserve and to impel him to perform any deliberate action. Such a case lacks self-control even to a greater extent than the boisterous high-spirited child, though the former is frequently the subject of praise for his " goodness " in sitting so quietly and being so orderly and obedient.

Good habits, habits of industry, concentration and obedience can only be formed by continuous series of effort. The formation of good habits is invaluable to the slow thinking, unreasoning, mentally defective, and is a vital, fundamental part of his training. Good physical habits may be formed by constant training, but good mental habits must be based on a definite daily effort. There we have the crux of the whole matter, a mentally defective child will learn nothing and do nothing unless he really wants to do it. The education of a mentally defective child does not admit of force, and never was the old proverb about taking a horse to water more applicable

than in this case. How then are we to implant good desires and train the constant effort? Implant? No; for after all the planting was done long ago, when the child came into this world "Trailing clouds of Glory." And we know, though sometimes we are hastily tempted to forget it, that there is implanted in every single child that we have ever known a strong desire for good. Those who were themselves ordinary naughty children, can often think back to the intensity of longing and desire for goodness which often culminated in feeble performances. The evidences of real naughtiness are constantly before our eyes, but the few heartfelt impulses for right do not easily come to fruition, and even when they do, they are not so obvious. It is a curious characteristic of even normal human beings to be exceedingly shy of showing their best sides or allowing their highest emotions to be noticeable. Many children are sensitive and shy about this too in a curious way, and it is characteristic of many of those who to the casual eye are anything but sensitive. Let us be tender in not hauling into the light of observation any momentary flash of goodness or it may be more badly injured than we are aware. By studying the child carefully, unobserved, and with a sympathetic open mind we shall often get illuminating side-lights on the feeble effort. After all, as an American aptly puts it, "The chief business of a teacher is to learn the child, not to teach him." And one of the first things he has to learn about the child is the reason why he does wrong.

If it were only realized how much simpler and yet so much more satisfactory all schemes of discipline would be if only a deep serious effort were made by the teacher to penetrate into the mind of a child! It is necessary not to talk about it only, but actually to try to realize the fundamental reason for certain actions on the part of

their children. To say that a child is thoroughly bad is just another way of lumping together certain striking characteristics and confessing that they are not understood; whereas, each child by every movement, look, interest or question is unconsciously opening the little windows by which an earnest searcher can see into his soul. Let the searcher besides the understanding eye bring the understanding heart to bear on his investigations.

It is certainly easier for the teacher if all the children in a class obediently fall in with all his plans in the accepted manner; but a child's own will and action must not be construed as naughtiness just because it does not happen to fit in with some preordained scheme of his majesty the teacher. If we analyse the troubles in a class on any given day, we shall see that ninety per cent. of the causes are due to the children doing something which does not fit in with some fixed and prearranged plan. The child does not, indeed, want to be troublesome, but he badly wants to follow some line of his own. In the Montessori Schools we hear that there is no scheme, the children have, therefore, no cause for friction, and we believe that there are no naughty children. Teachers must be very careful to distinguish between these little rubs which can easily be circumvented and serious breach of discipline.

Many a trouble has been caused by that curious almost unaccountable feeling which we call "imperative impulse." We all suffer from this more or less, but most of us learn from experience to control it. We think over our impulsive action afterwards, and we sum up the consequences; we reprove ourselves if it seems to have been unwise, and we laugh at it if it seems all right. Some of us laugh at seriously unwise impulses, some take slight things too seriously, but the future of the imperative

impulse lies in the hands of each individual. As normal intelligent beings we can make it what we will, but with the defective child this is not so. The sudden action is usually associated in his mind with some kind of punishment which is not as a rule a direct outcome of it. In this case a little talk about the event and reasonable understanding will give the child the right line of thought.

Undoubtedly the safest and best antidote to all kinds of trouble is to have congenial occupation. Let there always be an ample sufficiency of things to do in the classroom, and plenty of things which will interest all the children, particularly for those moments when Satan appears at the double, such as when registers are being called, when a visitor comes into the room for a few moments, or when the teacher is turning up the place in the music book.

Children seem to have it firmly fixed in their minds now, that to be good means to do nothing. Passive obedience has long been synonymous with goodness, though actually it is only a poor ally. The first and natural response to any appeal to the highest impulse is now as of old : " Lord, what wilt Thou have me to do ? " The fine lecture, a beautiful poem or song, a grand thought, rouses even in the worst man the inarticulate, unconscious desire to set to work at once to do good in some form or other. The strong impulse urges : " Nor sit, nor stand, but go." If this is so, would it not be well, after every fine story, or appeal to the feeling, to give an opportunity to do some definite bit of work as outcome, and let the children know thoroughly that after all the word " Good " is just an adaptation of the words " Go do ! "

*Suggestion* is one of the most powerful instruments of discipline to hand in the special school, where the children are easily led one way or another, and it is a

subject which it is worth while to study thoroughly. There are usually in a class two or three children who might almost be called suggestors, for they seem to suggest the attitude of the class towards any person or any event. They may be more forward, more defiant, or more obedient than the others, who will follow them like sheep. Wise is the teacher who on entering a new class captures the suggestors at the outset, for the rest is straightforward work. There are usually three leaders in every class who need to be considered seriously, and these being won over, the others are dealt with without difficulty.

Every one knows the value of suggestion to a tiny child, and, generally speaking, people make use of it, distracting the child's thoughts from something which he ought not to do by bringing into his mind something which he will probably find pleasant. In older children of the ordinary normal type the power of suggestion wanes soon after five or six years of age, and is replaced by interest and reasoning; with defective children, however, it is of value till a much later age. In fact, most defectives who have a mental age according to the Binet-Simon scale of less than six years may be influenced largely by suggestion. In low grade defectives even men and women can often be managed in this way. Stories, praise, appearance, all help towards suggesting right thoughts.

*Negative suggestion* is responsible for a great deal of naughtiness from those in whose mind it is the last possible intention. The defective mind works slowly, and often naughtiness is nothing more than the outcome of negative suggestion of a previous date.

With the best intentions, a teacher sometimes suggests a course of which the child may not have thought, in his anxiety to avoid it. "Do not shake your pen, or you

will make spots on the floor," says the teacher. The child is busy writing, but on the first idle moment the words recur to him—shake your pen—floor—spots—the memory of the round shiny appearance of the blot, and the fascinating way in which it soaks in and spreads in paler colour in a widening circle is overwhelming. The suggestion is irresistible. Had the teacher drawn the nib gently along the edge of the ink-pot with the remark : " This is a good way of cleaning your pen when it is too full," the negative suggestion would have been avoided.

The effect of suggestion is plainly seen in the occasional epidemics which break out in Special Schools. A boy plays truant, and this is made the subject of a discourse on truanting, with the result that several children who had not thought of the possibility before fail to appear—on several subsequent occasions. Again, perhaps something is stolen, and in the public investigation, another weak-willed child hears about it, and so the epidemic spreads. I do not think that any good purpose is served by talking about a child's bad deeds before the class. If the child is sensitive, it will hurt him too much ; and if it is a hardened case, he will be accustomed to disfavour, and it will not affect him. The other children become either self-righteous or ready to go and do what has been suggested to them by the lecture.

The defective child, however young, has already become inured to the hardship of being regarded as stupid, slow, or dull in his own home and environment; his little attempts are snubbed, and he shrinks back into self-consciousness with the knowledge of his own inferiority. On this fact hangs one of the main principles in the understanding of the feeble-minded.

" The great secret of help is Encouragement," writes Octavia Hill ; and if this is true in the case of a

normal being, much more is it true in the case of the defective child.

To encourage, to promote self-respect, self-confidence and faith in their own powers is then the first aim in the training of our children. We all know how disheartening severe criticism can be except to those very strong spirits who rise to higher levels from sheer sense of aggressiveness ; and how encouraging and inspiriting a spontaneous word of whole-hearted praise can be. Many inspectors walk in and out of our rooms ; some leave us cantankerous, sour, and (curious anomaly !) self-satisfied, while others leave us, though feeling our infinite weakness, yet with exhilarating freshness and longing to do better. They may come in and leave us almost without a word, and yet how disappointed we can be if they omit a visit to our room. We often forget that as our inspectors stand to us, so in some measure we stand to our children. They are eager for our little bit of praise, our look of special interest in some bit of their work or our pat on the shoulder. I do not think that the inspector who walks out of the school with immobile countenance and then sends in an excellent report some months later, gives half the encouragement that he would by a cheery decided word of praise on leaving. So with the children, an excellent mark in the book is less encouraging than the fresh " Well done " in passing. It is the voice, the tone, which gives reality to a mark. Many teachers do not realize at all what very important people they are to their children, how the pupils notice the fresh blouse, the dainty tie, and the neat hair, so different from what many of them see in their homes. We women are inclined to dress ourselves with great care and taste when visiting elegant friends who have ample opportunity for seeing fine clothes, and yet we often fail to take the same trouble

to look our best for the children who seldom see people dressed as well and who appreciate our style as no friends and acquaintances ever would.

Encouragement too is conveyed by intonation. Few people realize what beautiful instruments their voices are, what a wealth of variation, feeling or intensity can be conveyed by the voice apart from the words, yet many a one takes almost a pride in a clear feelingless voice, without inflection or modulation. The mentally defective child is acutely sensitive to variation in voice and intonation ; it is something rather new to him, for in his home environment but one tone is usually heard—the raised voice ; besides which he is generally rather slow to understand the actual words spoken. He is not always on the alert, and many a time does not catch the words, but he is quick to pick up the meaning from the tone, in much the same way as an animal will.

A study in intonation will save many words. A slight smart order given under the conviction that it will be instantly obeyed, rings in quite a different key to the same order if there is the slightest apprehension in the mind of the speaker. It is only by the subtlest shade of inflection that the children know whether the teacher will not be surprised if a few do not respond at once, or if it will be an occurrence quite out of the question. The quietly exasperated sound of " Mary Jones, of course," goes a long way to crystallize the idea of her general continuous troublesomeness in the girl's mind ; while the slightly heightened accent of pleased surprise in " Mary Jones again " on getting the second answer right (even if ten were wrong) is as simple and efficacious an incentive as if she had the whole ten answers right. Often a quick almost involuntary " Good ! " will raise the self-respect of a child more than a eulogy, which might

bring him too prominently before the class. Some children hanker after voluble praise and class recognition of their achievements; but the nervous, self-conscious or grinning, unbalanced child often hates this broad-cast praise which he has no power to prevent. It may be that this very aversion prevents the effort which might cause the turn of the limelight.

It is a proven fact that encouragement has a definite measurable economic value, and that it will raise the standard reached to a considerable degree. This may be ocularly demonstrated by means of a simple experiment with the ergograph. A style or pencil is fixed to one of the fingers of one hand and the other fingers and arm are fastened in order to keep them still. The tip of the pencil is brought into contact with a revolving drum covered with white paper. At a given signal the patient begins to move his finger up and down as strongly and rapidly as possible. The drum revolves, and at first the tracings on it are even up-and-down strokes; under ordinary conditions as the finger tires the strokes become shorter and less firm, until the finger finally stops working from sheer fatigue; this is the normal procedure. If, however, a word of encouragement is given at any moment during the experiment, it tends to strengthen and prolong the tracing, producing longer strokes and improving at each word of praise, thus showing that a further amount of activity and energy can be obtained by a few words of encouragement. If we can practically double the output of energy from one finger by so simple a thing as an encouraging word, the increase may be correspondingly greater when all the members of an individual or of a class come under the stimulus of encouragement.

The whole idea of encouragement is ultimately bound

up in the principle of incentive, which again relates back to the idea of effort.

Punishment, scolding, and displeasure are negative forces which are weak on that account. It is the recoil from such that we endeavour to produce. This may be right enough for normal children who are buoyant, but what possible use can there be in scolding or punishing a child who already believes he is at the bed-rock of naughtiness or uselessness? Here the recoil is infinitesimal if present at all, and may engender indignation rather than effort, and in such a case the child would have a right to be indignant.

Punishment will rarely be needed when there is understanding between the teacher and child; when necessary, it must be directly proportionate to the gravity of the offence. To meet out a certain punishment in a burst of impatience, which must afterwards be relaxed or remitted in a calmer moment, is to lose prestige and cause the children to lose confidence in the teacher. When once he has declared that a certain punishment is to be given, he must not go back on his word. Neither should he weaken his authority by a threat which is not carried out.

As a rule, to withhold a treat or to forbid the participation in some favourite game or story is the most reasonable punishment. All children know that treats are for the good ones only, so that by failing in his behaviour, the child knows that he himself is the one who is giving himself the punishment. This is a useful attitude, for it is well for the child to realize that punishment is the direct outcome of his own actions and is not the caprice of his teacher.

Children must be trained to be strong and virile, and to know clearly and definitely the difference between

right and wrong; they must learn to know the inevitable consequences of wrong conduct, and to accept punishment without anger or ill-will. Much naughtiness is due to ignorance, which must be distinguished from deliberate wrong-doing due to malice or unkindness. Intentional cruelty to other children or to animals, and stealing or want of respect for the property of others are perhaps the most serious offences with which we have to deal in special schools. These are, as a rule, the only ones for which a child should be caned. The moral effect of a caning in school increases in direct ratio to the rarity of the occurrence, and the cane should be kept out of the way, only to be taken out with great reluctance and with as much sorrow on the part of the teacher as on the part of the sufferer. There are some things for which it may be unjust to punish a child, such as irregular or unpunctual attendance; it might be reasonable to cane the parents, but generally not the child.

To cane or otherwise punish a child frequently for the same offence is futile. If he does not improve, the punishment is useless, and if he does improve, it shows that he is making an effort but cannot quite reach the standard every time.

Frequent punishment of any kind is wrong; it is a confession that some one in authority has failed somewhere. The prevention of wrong-doing is what we ardently desire, and is indeed more important than the punishment for it.

Whatever the fault may be, and whatever the punishment, it is most necessary that the teacher and child should part as friends. A few quiet words at the end of the day will leave the child with that half-unconscious expectation of a happy morrow. Nothing is more discomforting or more wearing to the teacher than the

knowledge that she has failed to leave a friend, and may expect a tussle on the next day. There is a depth of understanding and wisdom in the saying: "Never scold unless you have plenty of time to encourage afterwards." No good can come of leaving anyone feeling sore. There must be a definite end to the naughtiness, and a new beginning—yes, even if it happen day after day. The punishment or scolding is the end of a period, and must be immediately followed by the beginning of a new period of effort and desire, the encouragement of which is the aim of our training.

Constructive ideals creating desire and promoting effort are the basis of incentive. They are progressive, not final as in the negative agents, for one succeeds the other and ever there comes in sight a higher ideal.

It is primarily the spirit of encouragement which begets a desire for effort, and if effort—genuine, thoughtful, sustained effort—can be secured, I maintain that we have trained the highest asset to character that any education can produce. Therefore by every means, discipline, understanding, encouragement, competition, and incentive, let us endeavour to train effort towards a more or less attainable purpose and high ideals. People say the defective child will be so overwhelmingly conceited, but he really will not, and if he does it is only the childish delight in his prowess. High ideals will help to keep right his sense of proportion.

Anything and everything may be utilized as incentive, if it is only considered as such in the right way. Those who have read "Tom Sawyer" will remember how he managed to get the painting of the railings, his hated task, done by his chums, simply by speaking of the task to them as of something pleasurable and delightful. The dreariest, most monotonous task may be considered a treat and

incentive for a time, while very small treats and almost insignificant pleasures can be used to help the weak efforts of our children. Tangible rewards, slight or great, depreciate in time, and need to be varied. To be monitor, to collect books, clean blackboards, are great rewards for a time and train the feeling of responsibility, but soon become irksome and have to be changed. The moment the incentive begins to become a task it has to be superseded by another, so that eventually incentives will go almost in rotation as the seasons.

Although it is, of course, of paramount importance that the teacher should understand each child, it is most profitable for the child to know his teacher, and appreciate his aims to some extent. The days have passed when a parent's or teacher's word was the supreme law simply because he said so; and we know that even the worst of children will grow up to be more reasonable and responsible beings if they can understand in even a small degree the factors which determined the formulation of a rule. Why he should often be told to speak out when reading alone, and yet when reading with others he should be exhorted to read softly, must be an unfathomable mystery to a child with little perception of sound differences. Why should he not stand or sit in this position or that? Surely the teacher must be an autocrat, for no one else bothers how the child sits or stands. A slight explanation changes the child's conception of the teacher from the soul-less autocrat to the reasonable being.

I do not mean that the teacher should tarry a moment and give detailed explanation of any required performance, but rather that occasionally in a little chat he should refer incidentally to some recent circumstance and explain his point of view. Even mentally defective children have a strong sense of justice, and when they know that the

teacher has good reasons for his rules, they will accept them more readily ; and when their faith is once established they do not mind whether they understand or not. A strong bond of sympathy can often be established between teacher and taught by means of a "surprise." The preparation of some little gift for Christmas or birthday for the head teacher or one of the staff, any special little play or poem for a gala day, or any other quite trivial event will serve the purpose of a most exciting surprise. It must not last too long—ten days is a lifetime to some children—or the limit of endurance may be unduly strained ; neither must it be too frequent, or the children will not exert their full effort at self-restraint. For rousing *esprit de corps* and class fellowship a good secret of this kind has no rival.

Defective children as a rule resolve themselves into groups ; each group is a collection of characteristics whose cause may be found in the type for that group. The distinctions may vary in degree and direction, but probably the inception is in the same cause.

In most classes one or more of the following kinds of difficulties will be met with.

*Sudden Storm.*—A frequent case to be met with is the child who, as it were, from a calm ordinary mood, suddenly bursts into a frightful uncontrollable temper. This is as a rule caused by some very small event, and seems to distort his whole being. Such temper has been put down by some authorities to psychic epilepsy, a kind of storm over which the patient has no more control than he would have over an ordinary epileptic fit. With epilepsy the longer the fit can be warded off the less likely it is to recur ; this is probably the case with these psychic attacks. An observant teacher will notice the onset of such an attack and will record the particulars in order to be

prepared for future symptoms. Of course many a time such a sudden outburst is simply temper, but there again, the fewer the attacks the less frequent they become. When a really bad fit of temper comes on, it is wasted energy to try to reason or force the child. It is then best to leave him alone on one side to recover, provided he is not disturbing the others inordinately. It is really an illness; he is possessed with a devil every bit as much as the swine that ran down the steep place of old. The child oftentimes cannot help himself, and this fit is exhausting physically and mentally. It must be staved off if possible by diversion or incentive in much the same way as a fit of psychic epilepsy. The best way to ward off such an attack is by distracting the attention, giving the child something definite to do at once. I remember well in a certain school a gate which had to be kept shut at the end of a long passage in the playground. It was the means of practically curing two boys who had these attacks, for if an attack seemed imminent, the child was sent post-haste to the gate to see that it was shut. He returned as a rule out of breath with temper and discomfort forgotten. It was a simple but effective means.

These fits are frequently followed by a period of what appears to be sulking, but what in reality is shame. Let us respect this shame, it is doing the child good even though a suspicion of revenge or hatred may still linger in his mind. This aftermath period must not be prolonged by injudicious remarks or notice taken of the child. He must peacefully slip into his old place without observation as soon as he can.

*Small Beginnings.*—A somewhat similar temper is sometimes found from a very different cause. A very small beginning may end in a storm unless carefully treated. The inception is usually before school or from

some physical reason, and the teacher must be on the alert to know when something has gone wrong. Some children need to be noticed and helped when this is the case, others are much better left quite alone. Others wear that grin which is so aggravating and disconcerting ; but in any case a little extra consideration, leniency, or change prevents matters getting worse. I remember meeting a striking example of this kind of serious difficulty emanating from a ridiculously small beginning in a sturdy boy of twelve. It was on a visit to the Remand Home, where children are sent when they are to be taken to the Children's Court. The boy, Arthur, had been taken up one afternoon for loitering on the station and insulting a policeman. We were examining and recording cases with a view to ascertaining the mental efficiency of the children, and therefore questioned the child minutely. He told us that when he went home to dinner no one was at home, and he got no dinner, so instead of going to school off he went for some fun, and got in touch with some lads on the station. This had been entered in his record, and seemed a plausible enough reason for aggravating the boy. We questioned further, however, and found that his mother was always out on Monday, but made arrangements with the neighbour to give him dinner, and that he always went straight on to school afterwards. We then went into the morning at school and found that he had been in trouble. The boy in the desk in front had a mole on the back of his neck, Arthur just touched it with his pen, and the other boy cried out. Arthur was scolded and felt injured, was rude and was punished, and went on being tiresome. On leaving school that morning the teacher said, " I'll talk to you this afternoon, young man "—and three days later the boy was being tried in the Children's Court. He may have been habitually tiresome, I do not know, there

were probably special circumstances on both sides, but the story struck me very forcibly as showing what a flood may come from a "cloud no bigger than a man's hand."

It is, of course, more usual to find this sort of crisis among abnormal children, than among the normal; the former are lacking in self-control, are easily put off their balance, and are easily rubbed up the wrong way.

*Sulking.*—One of the most harmful, infectious, and deleterious kinds of temper is sulking. It is more frequently found among defectives than normals, and more often among girls than boys. It is most difficult to deal with, and nearly every case needs to be treated individually, but let the teacher beware of the incidence of it into a class, for it grows and spreads with remarkable rapidity. This again is an illness, due to lack of will-power and self-control in the same way as violent outbursts of temper, but is combined with a craving for understanding. When the child appears to be rather grumpy or out-of-sorts, a quite impersonal extra interest in his work will often withdraw his attention from himself and focus it on the work, thus saving a difficult situation. The child must not know that he is suspected of being sulky, and in this, more perhaps than in any other fault, does the giving of a bad name do harm. The extent of the trouble is mostly measured by the duration of an attack, but this may be indefinitely prolonged by an injudicious form of correction, or in many cases by any special notice at all. The child is best left severely alone as a rule, and utterly ignored when lessons are changed or classes move, and he will usually fall into line of his own accord. No one who has not suffered from the sulks, knows how unutterably miserable and apart the little sulky child can feel. He is unhappy in the feeling of weakness, and yet he is not strong enough to control it. This is punishment enough,

and as a rule the child needs no further correction. The child needs softening; he needs some one to be just as sorry about it, as he is himself; later on, perhaps next day, the teacher might make an opportunity for a little chat to induce self-confidence once more, and arouse those inarticulate yearnings towards that curiously indefinable thing which children know as goodness.

*Lying* among mentally defective children is part of their weakness. They are either overpowered by their imagination or they tell lies from fear. This should not be punished, but should be explained and treated with infinite kindness, tact, and patience, until the truthful habit is well established. The fruit of "understanding" can be clearly discerned in the improvement of this fault in a most gratifying way, and the years of care in school may eradicate it entirely.

There is a curious and often misunderstood condition to which I believe sulking is closely allied. It may be described as an emotional condition but it hangs largely on the sensual development. A highly emotional child craves affection, approbation, notice, and suffers many an uneasy pang from being overlooked by some one of whom he is fond. Such children need most careful treatment to keep their thoughts from dwelling on their feelings. The sulky child feeds on his forlorn feelings or those of his outraged sensitiveness. This morbid craving for notice may be utilized to turn the child's thoughts to some higher theme. If the child can repeat poetry, he can be given the chance of reciting, and the subsequent praise may be directed to the words, sentiment, or beauty of the piece, ignoring almost entirely the part of the reciter. Similarly, a good reader can read for others or a good gymnast may be required to show some exercise before the class, while the praise and discussion centres round the spirit,

with just a passing reference to the quality of the performance.

One characteristic of such children is the way in which they like to smoothe and pat things. This is particularly noticeable in the lower grades, who will fondle and gloat over a rag doll for hours. Both children and adult defectives show this tendency, which is really a perversion of the maternal instinct. With older people (men as well as women) it can be directed into its proper channel by giving them some charge or the responsibility of caring for some little child in the institution. In schools, however, this is a more difficult matter. The first thing is to realize which children suffer from these strong emotional feelings. It is often deep-rooted and strongly developed in the quietest, most reserved child, and is only revealed when a sudden gentle touch rouses the eagerness or the proximity of some one dearly loved stirs their feelings. Then a sudden flush or excitement shows the presence of this gush of feeling. Little defective children show it too by their fondness for stroking the dress or hand of some one they like. This must be checked and healthy invigorating occupation given to stem this tide of uncontrolled feeling, and to guide the desires in other directions.

The affection for any person can be guided into healthy channels by allowing the child to serve that person by doing something which will in time become a fascination in itself and supersede the sentimental passion. For instance, a child who feels this keen emotion for the teacher may be allowed to keep that teacher's desk in order, clean his bicycle, or may be given any bit of work in which he will presently find satisfaction. A girl who feels this deep affection for one of the little children should be given charge of its books, could dress and undress it, and might make some garment for it in school. Care must be taken

not to allow much fondling of the child, and the teacher must be careful not to sit down beside a child in whom he knows this feeling to be present or touch his hand. Their intercourse must be normal and ordinary, eliminating any tone of sympathy or affection for the time being. It is usually only a passing phase, and may result in renewed strength and force of character if rightly guided, although most hazardous possibilities ensue through allowing such feelings to overpower a child.

*The Giggling Child.*—Giggling is clearly due to lack of will-power and also to that curious gregarious instinct which is so strong in the mentally defective. A person does not readily giggle alone; the giggle reaches its strongest phase when two weak-willed children come under notice at the same moment over some utterly absurd circumstance. Undoubtedly the best way to prevent a continuous fit of giggling is to arouse a fresh healthy burst of laughter from the whole class. The silly giggle is lost in this, and the child joins in the legitimate reason for mirth. The laugh must be with the teacher, for giggling is so often the outcome of the notice children take of some little idiosyncrasy on the part of those in authority. The child who is possessed with a giggling fit has really no control over it; scolding and punishment have no effect, while many a time notice only increases the bursts of convulsive amusement. If the child can be induced to tell the secret of his amusement a hearty laugh may dispel the giggle, but as a rule the incidence is in some action, so trivial and ridiculous that the child is ashamed to retail it. It is not of the least use for the teacher to get angry, but far better to take the event quite calmly but make effort to prevent it spreading. One child has often power to set off a whole class if susceptible children are near. A new teacher may have

trouble with this until he knows the class sufficiently to allocate each to his special place. No teacher can afford to let the laugh be on the other side, and no teacher should ever allow himself to be an object of amusement to his class; he has his dignity to consider and the slight attitude of derision towards any of his ways is certain to weaken the respect of the children, however kindly and candidly he may make fun of himself.

A safety match is quite safe so long as it is apart from the rough striking surface of the box, but when the two rub against each other there will be an outburst. Children readily understand a little allegory like this, and will be the first to realize the wisdom of the teacher in separating them even if they do not quite like it.

*The Immediate Past.*—Few people realize how persistent is the influence of the immediate past, particularly with children. It is a common experience with adults, who have intense feelings and perhaps have a little difficulty in adapting themselves to new surroundings, to be overwhelmed, saturated, imbued with the intensity of the remembrance of some late condition. They have passed through a period especially interesting or especially obnoxious, and the remembrance of it seems to permeate the present; they cannot shake off the pleasurable sensation at will, or their day's work is darkened by the shadow of the pain of some recent sorrow. If this may be so with normal people, it may be remarked more strikingly in defectives. They require a longer period in which to settle down under changing circumstances and feel great difficulty in entirely obliterating a memory, especially such a persistent one as the Immediate Past. It is not so striking on most week-days, but is frequently intense on the return to school after a week-end holiday or a longer vacation. This intensity is utilized in

reproduction, games and expression work, taking "The Holidays" as the subject, and this may provide scope for an outlet of excitement and may also form a significant and valuable link between home and school.

There is, however, the daily Immediate Past. There is the background which colours or discolours the child's whole outlook; there are the filthy homes, slatternly mothers, crying babies, quarrelsome boys and girls, angry fathers, lack of food, cold beds. Many of our little children have a picture such as this to leave in the morning and return to at night. The miracle is that any of them ever get to school, clean, early and good-tempered. Those who do not, have probably tried their little best but have been over-ruled by force of circumstances.

It behoves every teacher, therefore, to know something of the circumstances of the scholars, and be quick to realize that something was wrong this morning. It is a moment of great possibility and sensitivity when the teacher's eye penetrates into the Immediate Past. Letting the child slip out quietly to wash, the provision of a little bit of lunch or any helpful word given, will form a bond of understanding sympathy between school and Immediate Past.

I am perfectly convinced that no child wants to be bad; he is overpowered by circumstances. We have often seen a child come into school in the morning with a wicked look in his eye, ready and aching to upset his neighbour, tear his book, or scribble on his copy. We imagine it is "pure naughtiness," "bad mood," or "weather," but experience will show that the cause is something much more concrete, and we must be ready to forestall these vapours by interesting activity, so that after the interval given up to this special task, the foreground will be so full and sunny that the clouds in the

background will fade away. Many a time the recollection of the possibilities of an Immediate Past will prevent a day's misery.

To sum up then, the whole question of discipline of the feeble-minded comes back to one or two fundamental factors :—

(*a*) That a child is naughty, apathetic, or variable because his physical strength is greater than the amount of effort which he can produce to control the same.

(*b*) Education of mental defectives aims at inculcating right habits to relieve the strain of effort, and also at training the child in sound reasoning and judgment in matters concerning his daily life, and in the will to carry out what he knows to be right.

In modern Special Schools, we have to thank and congratulate the pioneers of the work, who laid down rules founded on these principles, for the conduct of our schools.

If the children are to learn to guide themselves in the labyrinth of the world, they must have opportunities for learning and practising this, while they are still in touch with those who will explain to them their difficulties and help them to know the right decisions to make.

BOOKS OF REFERENCE.

Fisher . . . . . "The Montessori Mother."
Harrison . . . . . "Study of Child Nature."
Sully . . . . . "Studies of Childhood."
Morgan. . . . . "The Backward Child."

## CHAPTER III

### PREPARATORY CLASS

This class has often been called the "Kindergarten"; and the principles adopted in the lowest class in a Special School have in some measure agreed with those of Froebel. We have come to look on the Kindergarten, however, as a class for tiny children, and one cannot help considering the title somewhat incongruous when the special class is largely composed of children of an advanced age, and when in many ways the methods employed are not Kindergarten ones.

The Special School methods are not purely Kindergarten methods, but are a combination and modification of all that is best in Froebel, Séguin, and other educationalists, and these are adapted to suit the older physical development just as much as the childish mind. It is important to realize this in drawing up schemes of work for the lowest as well as the higher classes.

The name "Preparatory" describes better the real work done in this class, for after all it is the basis on which all the other work in the school is founded: it must not be an isolated bit of training of its own, culminating only in the capacity for the performance of the duties required in that class. In the curriculum for this class must be found the direct or indirect beginnings of every bit of work done in the school, and there is not time to do

anything which is not a definite step in one of the branches of education or of training. A few minutes consideration will show how dependent all higher branches of work are on the preparatory stages.

It is obvious, unfortunately, that many of those who are being trained will never reach a level much beyond these earlier stages. Most of the children admitted into special day schools, however, are of a grade which allows of some hope of education. The ineducable cases in varying grades of idiot and imbecile are in institutions, or, alas ! in their own homes.

Although, perhaps, not altogether relevant to school work, it may be useful as a preliminary, to give some account of the training of the lower grades of educable defectives.

The Binet-Simon Scale gives a good lead, and showing the general standard in defectives, and in this way suggests the necessary training.

The baby of one year can neither walk nor talk, nor care for itself, but may be perfectly normal for a child of that age ; but a child of ten years of age at such a stage would be considered a hopeless idiot.

A normal child of seven can read a few words, do a few little sums, run errands, and answer questions with fair intelligence, but an adult unable to do more than this would at once be designated mentally defective ; yet the process of development has been going on more or less regularly during the intervening years, although, for some reason, at an abnormally slow rate.

Our business, then, is to help to develop all parts of the defective child's mind and body in much the same way as those of a normal child of lesser years are developed, taking special note of the disproportionate retardation in some particulars.

The normal baby early learns to kick his toes against a pillow, then to stand by holding on to a chair, then to walk, balancing unsteadily; again he learns to connect words with objects, and long before he can say more than a few sounds, he has a clear connection in his mind between the word heard and the object seen; then he begins to make babbling sounds which gradually resolve themselves into the words heard; he learns to direct his hand towards the thing he wants and to close his fingers on it when touched. In a similar way the defective child is trained to speak, to walk, and to associate sounds with certain objects.

The lowest-grade children find difficulty in doing much that the normal baby can do easily; that being so, the poor little unfortunate is allowed to sit still all day at home or in an institution doing nothing. Now let me urge most emphatically that children must not be allowed to do nothing. Arnold Bennett in "How to live on 24 Hours a Day" denounces roundly the railway company which wrests from us the few minutes daily which we spend on the local platform waiting for a train that is late, and I would equally denounce the teacher or attendant who lets those precious minutes in a child's life fly past leaving no vestige of harvest to show for them.

The earlier years of life are those in which education and training may be most fruitful, and if these years are allowed to pass without being used to their best possible advantage, some one has stolen a poor but none the less precious heritage from one who could not help himself.

There are, unfortunately, parents, educated and refined, who rather than send their defective children away to be trained, will, out of motives of pure kindness, keep them stagnating at home, making futile excuses such as

"Wait till he is a little stronger," quite forgetting that flying time is seizing moments which could have been used in training and happiness.

Now, instead of letting the children of lowest intellect sit still day by day, it would be a comparatively easy matter for an attendant to help them in much the same way that a nurse helps a baby, by establishing connections and co-ordination; no words of mine could explain in so simple and scholarly a way the treatment of idiots as that wonderful book of our great pioneer "Edouard Séguin." Those who are interested in the training of these lowest grades should not fail to study his work. Though with all the good will and energy in the world, only very slight success will attend the efforts of those who try to train these children, still the satisfaction of having done all that was humanly possible for them will be its own reward.

For such a group of low-grade children in an institution or home, a suggestive scheme of work is appended.

### Nursery Class—Suggested Scheme (Children of Mentality of 3 or 4 Years).

#### Morning

1*st Period.—Social.*

Domestic work, tidying, dusting, putting things away in piles; hanging things up; folding table-cloths, dusters and towels; bed-making; folding sheets, pillow-cases, etc.; washing dolls'-clothes and hanging-out; folding up papers; doll-dressing; washing dolls' crockery and wiping; tidying out dolls' houses; cleaning spoons.

Language on names of articles and actions done.

*2nd Period.—Conversational.*

Sense-training and picture stories ; sorting-boxes and frames ; sitting down for special language lesson.

Language on names of animals—baby names, baa-baa ; gee-gee, bow-wow ; things in pictures—boy, baby, ball, etc.

*3rd Period.—Activity.*

Drill ; rhythmic exercises to music or singing ; humming tunes; breathing exercises; blowing bubbles; blowing the feather and wisps of paper ; articulation.

Balance exercises on rungs of ladder or walking on a line.

Language on direction—up, down, blow, away, hard, etc.

*4th Period.—Expression.*

Drawing on blackboard ; painting, plasticene work ; patty-pans with clay ; paper-tearing.

*5th Period.—Co-operation.*

Games—ring-a-roses ; looby-loo ; Scotch horses. Finger-plays. Gardening ; shovelling, carting and carrying sand, sand-bags or cobble-stones. Building with sand and with sand-bags. Swinging and see-saw.

Language on movements in play : Bring me a sandbag ; Run to the swing ; He is in the garden, on the see-saw ; etc.

## Afternoon

*1st Period.*—Sleep for 1 hour to 1½ hour.

*2nd Period.—Imitation.*

Brisk movements in drill ; marching, hopping, running, jumping, clapping and tapping. Ball games and bean-bag throwing. Running to fetch balls, etc.

Language on actions: I can hop; I can run; He is tapping.

*3rd Period.—Imagination.*

Story for (*a*) imagination and (*b*) reproduction.

*4th Period.—Control and Balance.*

Building with blocks; setting out nine-pins and soldiers; long stair, broad stair; nests of boxes and baskets; hammering; peg-boards and form-boards; solitaire. Water games; catching floating toys or nuts.

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In school, however, the task is a more promising one, although the onset takes place at a later stage, when some connections and some co-ordinations have been established, and when, moreover, the child has passed through a little part of the world. His training must be many-sided, and of its many branches the development of speech is perhaps the most important.

*Speech.*—The first necessity felt by a child is the understanding of spoken language, and somewhat later the power of expressing himself by this means.

It is safe to say that the understanding of language is always considerably ahead of the use of language. A young baby will readily understand certain words said to him, while at "mother," "bottle," or "out," a significant change will come over his face, showing that these words have a real meaning for him. Again, a toddler unable to say any words will obey little requests such as "Shut the door," or "Bring my shoes." This backwardness in using language extends proportionately to mature life, where the large majority of people who could easily follow the erudite language of clergy and lecturer would not think of expressing themselves in such advanced style. It is always somewhat difficult to modify one's language to

an audience of children, but infinitely more so is it in speaking to young defective children; very slowly and clearly must the words and sentences be given, bearing in mind the importance of intonation.

The twofold training in speech needs constant, consistent exercise :—

(*a*) Training and practice in understanding and producing language.

(*b*) Pronunciation and articulation.

For the first, the performance of every action should be accompanied by an appropriate sentence; it is not sufficient for the child to understand the order "Gather up the beads" and to be able to perform the action, he must also learn to tell what he has done, and to be able to give the same order to another. Again, it is not much use for him to be able to bring beads, buttons, and shells, etc., if he cannot say what each is, and distinguish it by its name. The enumeration of objects in a picture leads on from this, and when fair fluency is attained children may be encouraged to formulate little sentences describing the actions seen in the picture. According to Binet, a normal child of three will enumerate what is seen in a picture, *e.g.* "a girl; ball; boys; dog; another boy, etc." At seven years a child will describe the action in a picture, such as "the boy is throwing the ball; the dog is barking," etc.

Now, if we cannot get description from normal children of six, we cannot really expect such from defective children earlier than eight or nine, reckoning that they may be two or three years retarded, so it is discouraging to expect it. I have found, however, that defective children give a much fuller enumeration than the normal child before attempting to describe action; they will say "Pretty little girl in a red dress," and "high cart

with yellow wheels," before stating what the children are doing. I have accounted for this by disproportionate development; they have lived amongst others, and heard what others have said, but have failed to appreciate the movement in the picture. More important by far, however, than the slightly artificial description of a picture is the child's account of his own experiences. This is more difficult to obtain, and unfortunately the children who most need such training are always the last to respond to an invitation to say what they have been doing. In order to encourage this, the greatest possible licence, compatible with good order, should be allowed in the preparatory class; discussion and description should accompany every lesson, and children should be encouraged quite freely to express their thoughts and feelings; the teacher could dispense with direct question and answer as far as possible, and conversation will gradually become the spontaneous expression of childish thoughts and natural discussion of passing occurrences in school and home.

The second factor in speech, pronunciation and articulation, is one of the greatest difficulties in the case of the lower grades of defectives, and it is one which, being regarded as unfruitful, is frequently neglected, or at least trained with less thoroughness and system than is the case with other branches. Even normal children have a tendency to slur over letters and pronounce words in a careless manner; how much more inaccurate then are the slovenly, defective children even in using well-known words. Moreover, they are accustomed to hearing imperfect articulation, so that they find their own productions sufficient to procure for them their necessities. Besides this slip-shod tendency, there is, frequently, the graver difficulty of defective articulation. It may be due

to defective organs or it may be that the co-ordination between brain-centres and speech organs is ineffective. In either case patience and careful instruction will effect considerable improvement, while slovenly speech can be cured more or less permanently by careful and continuous training. From the very beginning, speech in the preparatory class should be helped with constant exercises in difficult sounds. The elements of speech need to be taught just as thoroughly and systematically as in the case of children who are deaf, while many of the devices employed by teachers of the deaf may be adopted and modified for teaching defective children to speak correctly. Tredgold states that of all mentally defective children one-third have defective speech; while in an examination in 1914 in several day Special Schools, out of a total of 412 children, 57 were found to suffer from marked defects of speech.

Careful and thorough handkerchief drill should be part of the daily programme in every preparatory class, and sometimes even in higher classes. There is nothing more certain to cause and aggravate stupidity than nasal obstruction, either permanent (as in the case of tonsils and adenoids) or temporary. The trained observance of this habit will make all speech training a pleasanter and simpler matter.

Exercises in deep careful breathing are often valuable in increasing the vitality, particularly of the more phlegmatic children whose muscles seem to lack elasticity. A course in this, graded in difficulty, might be given in the Preparatory Class during the speech-training period, and continued for a few minutes per day throughout the school. For centuries it has been realized that proper deep breathing, persisted in, improves the carriage and physique to a marked extent. Stammering can be

greatly improved by attention to breathing, but every effort must be made to prevent the habit, which is so easily contracted from others.

It is as well to test each child entering the school, asking him to repeat words or syllables embracing all difficult sounds both in initial and final positions in certain test words. A teacher can formulate a table of words for himself, suited to the prevailing difficulties of his district. A simple practical table is given below which may serve as a basis for the formation. Then at each subsequent test for the purpose of filling up the half-yearly report in the child's progress book, the sounds previously noted as difficult or defective can be tried and the improvement noted. A table should be kept of the chief speech difficulties of the class in order of numerical incidence among the members of the class; then the teacher can tell at a glance which children require special attention on each day.

TABLE OF SOUNDS

| | | |
|---|---|---|
| M | Mama | Arm |
| T | Tub | Boot |
| D | Daddy | Made |
| N | No | Run |
| P | Put | Ripe |
| F | Foe | Laugh |
| R | Run | Barrow (or More) |
| L | Love | Pull |
| C or K | Caw | Sack |
| S or C | Sack | Mass |
| Z | Zoo | Buzz |
| H | High | — |
| W | We | Few |
| V | Vent | Love |
| Y | You | Boy |
| G | Go | Jag |
| J | Jag | Madge |
| QU | Queen | — |

TABLE OF SOUNDS—*continued*

| | | |
|---|---|---|
| MP | — | Lamp |
| CL | Clap. | — |
| SH | Shoot | Brush |
| CH | Chew | Much |
| TH | Thin—This. | Pith—With |
| NG | — | Ding |
| NK | — | Bank |

A looking-glass at least 2 ft. by $1\frac{3}{4}$ ft. is indispensable in this regard. Useful training can be secured by utilizing this means of instruction, for, children, when seeing their own lips, tongue and teeth, can imitate more readily the movements required by the teacher. Both teacher and child should look into the mirror so that their reflections will be near enough for easy comparison. A child may be able to articulate any consonant separately, and yet be unable to form the sound in combination with certain other sounds. Such a case is greatly assisted by the use of the mirror.

A definite time should be allotted to speech training—for about 10–15 minutes twice or three times each week—in every class. Games such as are played in the Preparatory Class can be adapted, also simple rhymes and alliterative verses, which rouse the competitive spirit among the children. When the general articulation has improved, as it undoubtedly does with care and patience, this time may be given to repetition of the words of songs wherein careful pronunciation in the learning stages is so important.

Various little games directed towards the correct perception and articulation of sounds can be used to advantage. The child noticing the difference in sounds, is on the first step towards making the effort to show it ; but correct enunciation requires a certain amount of

mental effort which at this stage is weak. This weakness detracts from the value of lessons in which mental effort is needed, resort must be made, therefore, to some speech and articulation lessons in the form of games. One such game is this: Let each child in the class be given or choose a word; all words must be of a somewhat similar sound, as for instance "meat," "mead," "feet," "reed," "lead," etc. The game is then played as in "Family Coach"; when any one of the given words is called out, the bearer stands up and turns round. It is unnecessary for the words to form part of a story for the whole attention should be on the word itself, and must not be distracted by a story. In this way the children learn to fix their attention on distinguishing the essential differences in words; both hearing and speech are thereby improved.

The pronunciation of different words without voice emphasizes the similarities and differences in lip movements in words which may be much alike or totally dissimilar. Much keenness can be engendered among more advanced children by this application.

Bubble-blowing is a good exercise in breath-control, but must have a definite aim. Blow the feather and table football can be used for the same purpose, and are much enjoyed even by the older children. Blowing into air-balloons and paper-bags may occasionally have a purpose, for bags and balloons may be used for games afterwards. Some of the suggestions in the following chapters on Sense Training and Reading may be modified for special use as speech training in the Preparatory Class.

*Development of Larger Muscles.*—Having made a beginning with speech, the means of communication between teacher and pupil, we proceed to the discussion of exercising the larger muscular movements in much the same way as that in which a baby is exercised; control

over the finer muscles is only gained by a gradual process based on good co-ordination. For this reason plenty of exercises are needed involving frequent repetition of co-ordinated movement; for instance, buttoning large then small buttons, fastening hooks and eyes, press buttons, fastening buckles and straps, lacing up boots, plaiting braids and string, knotting tape, raffia or string. These exercises all establish a number of connections between nerve centres and help the child to gain power over the fingers. The Montessori apparatus may be used for this with advantage, or the older similar apparatus adapted from Séguin and long used in schools and institutions for defectives, can be used or adapted for the little ones. These may be made in the higher classes of the school; the coloured braids for plaiting can be measured, cut and nailed up by the junior boys; the sewing on of buttons, and the fixing of straps by both junior boys and girls, while the making of the foundations in drill or tick and the button-holes, etc., are useful work for older girls.

These exercises are largely concentric, but parallel with the finger training runs the training of the hand and eye to work together.

Form-boards make a connection between the mental and physical exercises, for here the child cannot act mechanically as when inserting buttons into holes, but must use both hand and eye intelligently. A series of form-boards can be made ranging from the simplest kind with two or three blocks to fix into similar shapes, to those requiring forethought and some reasoning.

Those generally used are adapted from the ones introduced by Séguin to the Massachusetts School for the Feeble Minded at Waverley, U.S.A., and can be used during a stage, beginning at such time as the child can insert one correctly, and continuing systematically,

till he can fix all the boards correctly in the shortest possible space of time.

Simpler form-boards in which only three insets are used can be utilized in the earliest stages, while the fact that the exercises are self-corrective from the beginning is important. In constructing these form-boards, it is well to make the board itself solid and of a good size, while the insets should be of such a thickness that they may be easily picked out of their holes with the fingers. It is advisable that the child should grasp and handle each form in order to impress the image by touch as well as by sight; for this reason a little handle to each is superfluous.

A slight advance on the form-board may be made by using a sheet of cardboard with the shapes drawn upon it; similar shapes are cut out of thick cardboard and are laid on the drawings. This exercise is not self-corrective to the same extent as the form-board, but is a useful step, and the form-card is easily made.

Besides speech training and finger control, the general control of body and limbs needs careful attention; one can contrast the mental attitude of an individual whose body is slack and floppy with the keen alertness associated with the person of smartly braced up limbs. The majority of untrained defective children exhibit this lack of muscular control, accompanied by phlegmatic heaviness, flightiness or fidgetiness; it is therefore particularly urgent that all our children should have plenty of exercise in general physical development.

Systematic drill is too difficult and uninteresting for the average lower-grade defective, so this has to be preceded and later supplemented by games, free movements and simple balance exercises, together with a few of the easiest drill movements occasionally taken briskly.

A large well-arranged room with floor space in the centre gives opportunity for plenty of simple free movements; such as giving out apparatus, writing on blackboard, opening door, tidying room, dusting room, arranging lighter furniture, and the hundred and one ordinary actions of a child feeling quite free and at home in the room. These are the natural early exercises calculated to produce control of muscles, while if appropriate conversation is allowed, full benefit will be gained by the movements.

*Games.*—It is usually found that the Kindergarten games, which otherwise might be suitable, fail with our children on account of their difficulty in expressing their meaning in language. Many of the simpler games of nursery days are loved by these older infants, "Hunt the Slipper," "Cobbler, Cobbler, mend my Shoe," "Puss in the Corner," "Family Coach," "Blind Man's Buff," "Oranges and Lemons," "Musical Chairs" (adapted), "Hide the Thimble," and variations of these, can be introduced as described below (p. 144). Playing at houses or schools, laying the table, and pretending to keep shop, going in a tram-car require some moving of light furniture involving some physical exercise, while such games train the imagination and encourage self-expression.

*Balance.*—It is the actual balance of the body which stamps a defective more than anything else in the eyes of an expert. One of the earliest tests used by Dr. Warner more than twenty years ago, was the observation of bodily control. On entering an ordinary school he would examine the attitude of a whole class standing, first at attention and then with arms stretched forward. It was claimed that a rough estimate of the mentally defective children could be gauged by this means. In America. the experts who examine immigrants at Ellis Island, New York, stand by and carefully scrutinize every

one who passes in, and base their decision in the first instance on the gait and general balance. In Psychological clinics an apparatus is used to determine the amount and direction of the swaying of a child. He is required to stand perfectly straight and still; a boy's ordinary mortar-board cap covered with a sheet of paper is placed on his head, a pen is poised over his head by a fixed arm which just touches the paper, so that every jerk or movement of the child's body or head is recorded on the paper. It is affirmed that a defective person cannot control his balance sufficiently to stand perfectly still, and will sway in varying directions, while a normal person sways regularly and rhythmically. However that may be, there is no doubt that defective children, on the whole, have very poor balance; the head hangs, or pokes forward, and in rare cases it is too far back; one hip or one shoulder tends to be higher than the other; the mouth and eyes are controlled with difficulty, and the tendency of the arms to hang limply or to fidget is most marked.

The earliest balance of normal children is learned in the ordinary walking movement; and our defective children should be taught that to walk well is a high aim to work for, requiring thought and effort. Low-grade children find difficulty in balance even for little walks across the room, so they need plenty of opportunity for moving about freely.

If the children are low-grade, the little walks can be made opportunities for conversation also, such as "across the room," "towards the window," "round the table," "behind the board," and many other self-evident expressions, which need practising and understanding. For instance, "in and out," "between chairs," and at a later stage among nine-pins. How necessary this is becomes apparent from the frequent senseless remarks of children,

showing they are thoroughly muddled as to the exact meaning of ordinary expressions.

It does not seem to be a big step from simply walking to carrying an object across the room, yet it is striking how the thought required in holding the object detracts from the correct body balance, and the child trembles, shakes, and clumsily knocks into the furniture. Carrying something such as a ball, sponge, or any other object which admits of being grasped and squeezed but not broken, is most simple, while the difficulty gradually increases in carrying a flat book. A board can be carried flat in one hand or both, then later another object can be placed on the board which is used as a tray, etc. The potato and spoon race, and carrying a mug full of water, show the degree of control which can be acquired with regular, continuous practice. The carrying of light objects on the head is a good exercise; to balance, for instance, a soft pin-cushion, or bean bag, large curtain ring, then a book, and finally carrying such an article as a mill-board either on the bare head or on a pad requires care.

When training has been given in such movements walking on an ordinary plank, say six to eight inches wide and two inches high, is the next step; this involves the bit of climbing so dear to the hearts of children. This lesson can be graded by using a narrower plank, also by raising the plank slightly on a wooden brick at either end. The ladder may be used at an earlier stage for teaching a slouching child to raise its feet; it is laid flat on the floor and the children encouraged to walk over the rungs. It can also be used by the steadier children raised on bricks at either end; a knee raising movement combined with careful placing of feet between the rungs is the outcome, while many much-loved exercises can be based on this. Why does the painter or window-cleaner always fasten

a board over his ladder when he leaves it? Because he knows that, without such protection, every small boy in the neighbourhood would be exercising on the rungs! Knowing what a keen pleasure and interest children take in this, we can utilize it for training which we believe to be necessary. As soon as he can manage it, the little defective will also evince great pleasure in walking on the rungs of a ladder laid on the schoolroom floor, or on the sides of the ladder, walking on the edges, and balancing on rungs. It is easy to borrow a ladder from the caretaker, and there should not be much difficulty in obtaining a narrow plank which can be placed flat against the wall when not in use; but if these cannot be procured, similar exercises can be performed by drawing a broad chalk line on the floor, or two lines about twelve inches apart, and then by placing books standing slightly opened on their front edges at equi-distant points. The backs of the books correspond with the rungs of the ladder, and of necessity special care must be taken in lifting the feet over them.

All these exercises give the young defective child some control over the various parts of the body, and some co-ordination between the grosser muscles.

Ball games form an excellent supplement to exercises for co-ordination in this class. The use of a ball such as a tennis-ball renders the games rather difficult, but large soft balls can be used with advantage. These can be made on cardboard rings in the same way as woollen balls, but thick white knitting cotton substituted for wool, enables the balls to be easily washed and boiled. Balls covered by strips of knitting and stuffed are useful, but are rather hard and bouncing, while they are liable to get dirty. Air balloons may be used occasionally by children who are inclined to be rough; all love the appearance

of the pretty bright-coloured balloon and know how delicate it is, so that its use will help to produce the gentle touch needed, and will teach the children to use restraint and care in the game.

Toilet lessons have proved to be of great value in raising the general tone of the lower-grade defectives. They are taught to wash themselves thoroughly and systematically. Each child is provided with its own bowl, towel, tooth-brush, etc. The child greatly enjoys this lesson, and his moral tone and self-respect are raised. The feeling of thorough freshness and cleanliness, once having been experienced and enjoyed will, we hope, lead to the desire for habitual cleanliness, so that in later life the child will not again fall into habits of dirt and slatternliness. The principles underlying the toilet lessons are somewhat analogous to those of the regular weekly bath which is a feature of most special schools.

A dolls' house ought to be part of the equipment for every preparatory class, both on account of the pleasure that it generates, and of the useful training in deft, clean and careful handling which it gives. A satisfactory and satisfying dolls' house can be made by the big boys in the workshop, and the children in all classes will enjoy contributing to the making of the furniture. It is perhaps rather a troublesome occupation, requiring as it does so much paraphernalia for painting, varnishing, etc. Every bit of the furniture can be made by some of the children, and at small cost. An excellent suggestive description of such a house is given in Caxton's "Book of School Handwork," many of the ideas of which can be adapted and modified by the children.

Simple domestic duties can, and should, be performed by the preparatory class every day if possible, or at least one hour weekly should be devoted to dusting the room,

hanging up and taking down pictures, putting away exhibition work, washing flower vases and inkstands, cleaning cupboard knobs, door handles, tidying out cupboards, folding and counting dusters or towels, and the multitudinous little domestic duties that children love. These duties give scope for admirable lessons in self-control, personal responsibility, balance and tidiness; all children like to help, and the fact that they are really necessary doings increases their value in the children's estimation.

In schools where dinner is provided for the children who stay at school at mid-day, there are always the spoons to be cleaned, counted and tidied away on Friday afternoons; while a few minutes daily devoted to laying the tables, form a practical and useful lesson.

An original teacher can turn to account as training countless occurrences in daily life, and can make each serve a definite educational purpose in training, co-ordination, manipulation, observation and speech.

Among exercises designed to further motor control, none are more suitable in the earlier stages than building with wooden bricks or blocks; arranging armies of soldiers, or setting up nine-pins. In this again the child's native interest and the power gained by this means will be used later on when harder building exercises have to be undertaken, and tools used which require careful handling to control them. Nailing can be learnt soon after this control has been gained. Large broad-headed nails at first, then tacks or ordinary small wire nails are used. Blocks of wood or tree trunks serve as an object for nailing exercise, and the nails can be driven in to form a definite pattern, such as letters of the alphabet or a simple geometric design. In thick wood the nails are best driven home, but in thin strips they should only be driven in to

a specified distance. Mistakes can be remedied by withdrawing the nails by means of pliers.

Motor control can also be developed by means of contrasting weights and measures. Sand can be weighed in the kitchen scales and compared with another weight. (No weight should be specified at this stage, simply the requirement, for instance "as heavy as this weight," being sufficient.) Water can be measured out also; this involves manipulation of vessels and exacts great care; the only measurement here again being by comparison; *e.g.*, "twice as much as in this glass," etc.

Children love playing with water, and they can gain a good deal of motor control and facility in pouring out and measuring with little mugs or pots, and also with measures of capacity. They can measure, compare, and weigh with water as with any other material such as sand. A game of the "Milkman" will render this exercise real and fruitful. Most schools have a big zinc bath, for use in the soaking of cane, which could be used by the younger children for this purpose. Sometimes, on a hot day, this bath might be taken into the playground and the children allowed to measure and carry to their hearts' content; some will like to keep shop and sell mugs of water, others will be milkmen, and some of the girls may like to have a dolls' washing. Here again, knowing the child's love of playing with water, we can turn this interest to some account. The children will soon learn to keep themselves dry and tidy and not to splash inordinately; this will be a condition of the participation in the game.

This elementary training will ensure some increase in general motor control, which will be evident in improved speech, general movements, and use of the fingers. Parallel with this will come the more detailed training of the senses of which some account is given below.

The aim of these two important sections is to lay down and strengthen on all sides the foundation on which all the future work of these defective children is to be based.

This, however, is not all that is expected from the Preparatory Class, for the organization of many schools is such that the class succeeding this is one in which "ordinary lessons" are taught, comparable with the higher classes of an infant school, or lower Standard I. This being the case, there must also be added to the work already outlined, the rudiments of reading and number. At this stage only the most practical concrete work should be done.

Knowledge of letters can be given chiefly by actually making and using the letters. In conjunction with speech training, each letter learnt and pronounced, should be learnt by drawing it in sand, or on the blackboard; it should be connected in the child's mind with the key word for that letter. The letters may also be made in clay, or the pattern made by nailing; a broad plain pin-cushion can also be used and the shape of the letter outlined in brass-headed tacks; the child runs his fingers over it and learns the letter without difficulty.

Although I do not consider that the teaching of reading is best prefaced by a knowledge of letters, yet for a child to know even a few letters is particularly useful in the earlier stages. At medical inspections such knowledge helps in accurate eye-testing; it is practically useful in distinguishing and giving out work or books, for names or initials can be discovered, giving the child a germ of interest in the many signs which surround him. Whether it is the alphabetic name, sound, or a word-whole method which is employed depends on each child, but whichever it is, it must be consistently one, and must admit of continuance throughout the school.

Writing can be little more than drawing letters at this

stage; children should have ample space on which to write, scribble, or draw.

A large wall blackboard is excellent for this work; the surface should cover two if not three sides of the room, and should extend from within 12 inches of the floor to a height of 5 feet. Stout black (or dark green) linoleum answers the purpose well, and can be firmly fixed by means of strips of beading without much expense, and without permanently disfiguring the wall.

Children are always fond of trying to write, or making marks with any bit of stick or stone that will make an impression, such as scratching on gravel, sand, or slate. One hears it said that a piece of chalk is a temptation to a child, and certainly one sees evidences of its alluring power on many an entry-door, cloakroom, and pavement. But why should a child not write? When we know of anything that a child wants to do very much, and such a legitimate thing as exercising some power, surely we should utilize and encourage such expression in every possible way. If we give the children chalk to use, plenty of space to write on, and plenty of opportunities, there will be no longer a question of temptation, but an eager desire turned to profitable account. They will have scope for their activity, and respect for the property of others will be more easily taught, to the advantage of the neighbouring walls.

Moreover, with little children it is a sensible and logical way of learning to write. How desperately dull and uninteresting it is to follow the teacher's chalk going "up to the line and down to the line" and then have to copy this form! If children have plenty of scope for free drawing and "writing" (such as a four-year-old calls writing) on big spaces, they will realize after a time that when they make certain movements, certain appearances

on the board will result. Later on the converse becomes apparent; they learn from their own activity that if they wish to produce a certain appearance on the board, they must make some particular movement. There is not space here to more than indicate such a scheme, but it admits of development. The big circles like the letter O, and the series of up-and-down strokes are evolved almost unconsciously from scribble, and on these foundations writing is gradually built up.

When this stage is passed sandpaper letters may be used for more exact detail. A letter can be made by cutting the letter out in sandpaper and attaching it to a card, or more easily by painting the letter on card in glue, and sprinkling sand all over the glue. A softer letter for delicate fingers may be made with pith cards. The letter is simply painted on the card, and as the pith swells with the wet paint, the letter becomes raised and stands out from the surface of the card. All these cards should have the top corners snipped off in order to show the top of the letter, and in the case of script letters, a tiny "up-stroke" in distinctive colour should show where the letter is to be begun.

It is sometimes a good plan to let children use only one kind of letters in the early stages; for this, small printed letters suit the purpose best. The connections between these can gradually be made in a similar way to that used by Miss Nellie Dale in her system of reading and writing. It is a logical and simple plan which has much to recommend it, and is now becoming widely adopted. According to experiments lately carried out in a London school, the clearness, legibility and charm of the writing produced is striking.

BOOKS OF REFERENCE.

Drummond . . "The Child. His Nature and Nurture."
Holman . . . "Séguin and his Physiological Method of Education."

## CHAPTER IV

### SENSE TRAINING

PERHAPS of all the training in the Preparatory Class, none is more important than this. There is no doubt that sound reasoning and judgment must be based on sound premises, which in their turn are based on definite thoughts, which again are the outcome of clear, distinct perceptions ; so that the proper initial training for higher mental processes is accurate systematic sense training.

Sense experiences crowd in on us from all sides ; many of them we know from early childhood and know just what to expect from them, others are the fruit of many perceptions. Some one mentions menthol, and unconsciously there leaps to mind the strong smell, the waxy feeling, the appearance of the little wooden case which holds it and the stinging sensation on the forehead ! The sense impression is perfectly clear, and each factor is vividly recalled by the other. This is not so, however, with the defective child, for his whole brain is blurred by the imperfect perceptions which he has acquired. His connections are also weak, so that often, even if he can distinguish certain articles, he does not associate them with their attributes of shape, smell, etc.

But if clear perceptions can be gained and definite connections established, a sound basis is created for all subsequent mental processes while the apperceptive mass

is alive. This is a vital consideration for the training of the defective child.

Five wonderful channels have been provided by which the brain may be reached. Through these pours in a continuous stream of all kinds of perceptions. It behoves us to make all the channels as useful and as effective as possible and not to rely on any two, as most normal people are inclined to do. Many learn chiefly through the eye, others depend largely on hearing, while blind and deaf-blind receive their impressions almost entirely by touch.

It is alleged by competent authorities, that the actual sense organs of defective persons are not necessarily inferior to those of normal beings, but that it is the inability to make use of the sense impressions which produces defective work.

Séguin depended greatly on sense training for the preliminary stages in the education of defectives, and it is from his work that many of the modern ideas on this subject have grown. Special schools and institutions for the mentally defective used his apparatus and adopted his ideas many years ago, although the popular interest in this subject is only of recent growth.

The first purpose, then, must be to let our children know that they, as well as normal children, have wonderful ways of finding out all about their surroundings. The tendency is to depend largely on sight, so that the visual sense is usually the most highly cultivated and most widely used. Therefore in order to encourage the child the earlier exercises are based on seeing, and they gradually work up to the use of other sense organs.

*Sorting* is a valuable exercise, which may be graded to an almost infinite degree. It is based on the same principle as Froebel's Gift II., the ball, cube, and cylinder :

we try to focus the attention on essential differences and similarities. The only satisfactory way of training the child to observe, is by contrasting and comparing by means of any of the senses, and by letting him find out for himself the means whereby he can detect differences.

An early sorting exercise consists of dividing out a heap of small mixed cubes and small mixed balls into two boxes ; all the cubes, irrespective of size, are put into one box and all the balls into another. Cubes, pyramids, tablets, balls, etc., can be sorted in the same way, gradually increasing the complexity, thus establishing muscular co-ordinations between eye and hand.

A finer exercise consists in sorting various small articles such as beads, buttons, thimbles, and nibs ; they can be separated into compartment boxes, an exercise which exacts thought and attention from beginners. These compartment boxes can be made quite easily by fitting in a number of small pin boxes, or draper's boxes, into a larger cardboard one ; this is convenient as it prevents the little boxes being knocked over.

Sorting exercises, such as above, may be found too elementary for the children found in most special schools, but occasionally there will be noticed children who will ask for a sorting box over and over again, and it is most fascinating to see the obvious improvement in work which otherwise might appear hopeless, and it has a curiously satisfying and soothing effect on the child to know from his own observation that he is improving. For a further development, scraps of material from the rag-bag, or drapers' patterns can be used ; a large number are needed and can be sorted in endless variety : all the plain patterns together, all the ones with a stripe, all with flowers, with spots, and with different colours. At first the division is into two piles ; those of a given colour

and the remainder; later on three piles will be made, consisting of all of one kind, those of a second kind, and again the remainder, and so on. This exercise may be tried with picture post-cards, giving the same training. Children love the pictures and will readily discover all those showing a house, those with a lady, with water or with trees, etc., and will enjoy sorting them out. Differences in colour and objects are readily learned and will pave the way for the more difficult discrimination of shapes.

A further exercise, though somewhat more didactic, is the sorting of geometric shapes.

This follows on directly from exercises on the form board and form card, and it opens up several possibilities for sense-training. The apparatus consists of a number of pieces of white calico or stout holland about six inches long by four inches wide with coloured shapes pasted on them. They are carefully graded in difficulty, and each pattern has a duplicate or even two or three facsimile copies. The first strip has a scarlet circle pasted on to it, the second a green triangle, the third bears both a scarlet circle and a green triangle, and so forth, each one being a little more elaborate than the previous one, until quite complicated patterns are reached.

As a rule the teacher will prepare a number of fairly simple specimens, and will gradually increase the stock and the difficulty until a child can discriminate between two patterns which resemble each other in all particulars but one. A bundle of these is given out to a child and he pairs them up, while another child can run through them afterwards to see if they are correct. These exercises require thoughtful attention in distinguishing, and are a valuable test for intelligence, judgment, and discrimination.

A more advanced child can piece up picture postcards

which have been cut into two, three, four or more pieces; the difficulty can be graded and the pieces of three or more pictures put into each envelope. The first envelope might contain, for instance, the two pieces of a seaside town and two pieces of something utterly different, such as a cat. The similarities and differences are striking. The child then sees the principles on which he has to work, and gradually working through a series can get into the way of focussing his attention on the differences and similarities essential to the pictures. The ordinary picture block puzzles follow on, or even jig-saw puzzles may be utilized for this purpose. The latter are, however, not quite so good, as they belong to the stage of comparing shapes, and the child concentrates on the shape of the little corners and angles instead of comparing the parts of the picture in relation to the picture as a whole and thinking out the meaning.

A practical test of observation and visual memory can be obtained by holding up a certain page or picture for a few seconds and then requesting the children to find it in their own books. It is enlightening to see the way in which they set about this, it being, of course, long before they can read, and considerable insight can be gained into the working of their brains by questioning as to what they remember first and how they could best be enabled to recall the picture to mind. This, however, merges into memory work.

For a class game "Hunt the Thimble" might serve a useful purpose in cultivating quickness and alertness in observation. A similar game, sometimes called "Changes," is useful for a small class in which all can have turns. Two children go out of the room, while the others make some changes in the room, such as taking down the blackboard, turning over a picture, children

changing places, and countless changes more or less difficult. The children see who is first at discovering the change made. The object of letting two children go together is to sharpen them up by competition. The child who first discovers the change goes out again as a reward for his quickness and chooses a companion to take with him. There is a special significance in allowing the child to choose his companion. The privilege of taking a turn is deeply prized, and to delegate this to one child is to give him, as it were, a deed of gift. Sadly few are the opportunities that our children have of experiencing the inestimable joy of giving, so we must let them feel it whenever possible ; to let the choice fall on any individual may be only a matter of expediency to the teacher, but it is a big important gift to the child.

*Tactile Training.*—How neglected a sense is that of touch ! And yet how powerful a one can best be realized by watching a blind child at work and then by trying to emulate some of his movements. We do not use this channel, because we are satisfied with the channels which we use more readily, but the defective needs to use all channels.

To train the sense of touch, the two predominant factors, feeling for shape and the feeling for surface, must be considered. Probably the feeling for crude shape develops first ; the baby learns to know things by their shapes some time before he realizes the surface distinctions.

At early stages shape exercises are best taken apart from surface exercises, for one great danger with the defective is the tendency to muddle up impressions. This can be combated by concentrating on one factor at a time. Sorting exercises similar to those used for visual training might be equally well employed for training this sense, the child in this case being blindfolded. In

fact, the transition from sight to touch is best effected by giving a number of exercises involving the use of both before eliminating the visual factor.

Simple form boards can also be used for this; the larger board lends itself well to discovery of its parts by touch, while all kinds prove to be valuable exercises for visual and tactile training.

Grosser differences in texture and material can be discovered by touch and by sorting done in a similar way to the sorting by sight. For instance, a box is provided containing all kinds of scraps of material, silk, leather, wood, pumice stone, etc., all in duplicate or triplicate. Certain samples are given out and the pairs to these need to be found. These exercises can be graded from most obvious beginnings, such as distinguishing between sandpaper and plush, then a series with varying grades of rough and smooth materials may be required and placed in gradation. This involves considerable care and delicacy of touch.

A variation of this involving the Thermic sense is found in comparing different degrees of heat. Perhaps the simplest and a great favourite is comparing the heat of water. Four or five similar mugs are partly filled with cold water, one filled to one-third of its capacity, one to one quarter, one to one-fifth and so on; they are then filled up nearly to the brim with very hot water. The temperature varies evenly and sufficiently to detect differences. The children can either feel the outside of the mug, or dip one or two fingers into the water to find out the hottest or coldest, and competitions may be given to see which children can place the mugs quite in order of heat and cold. The water will gradually get cooler, but the cooling off will be constant. It should be noticed that it is almost impossible to detect differences in

temperature when that difference is less than 4 degrees Fahrenheit.

The Stereognosis or mystery bag also offers good training in tactile discrimination and choice. Each child, or each of a group, has his own bag which is large and preferably of dark material, with a wide opening which can be drawn up by a string, or better still, by elastic. Each bag is filled with a variety of small well-known articles, such as a thimble, button, ball, bead, etc. One of these is found and withdrawn in response to the teacher's request. This game is a great favourite as it admits of a certain amount of competition, for as the contents of the bags are similar, every child has to find the required object. All the objects can be withdrawn on demand, one after another in turn, and an exercise for another group consists in filling up the bags again. For the beginners, who are sometimes nervous of putting their hands into a bag, only two, or possibly three, objects would be put into the bag, the child is then allowed to feel a certain object in his bag and discover by touch what it is and give its name before bringing it to light. But after a while children become quite expert in discriminating, and can pick out any specified object from a large number, even when the resemblance between several articles is strong.

An exercise which fascinates the higher-grade children is that of distinguishing small grains. A number of small bags can be used each containing one substance, such as sugar or salt, flour, various grains, coffee beans, ground coffee. The child then chooses the biggest grains or the smoothest substance or the roughest; later he arranges five bags in order of roughness or smoothness, etc., and finally, on being allowed to feel one of the substances, he can say from which bag it is taken. For this exercise also the child is blindfolded.

These lessons training the touch should clear the brains of the children and give them definite clear-cut images which will stand them in good stead throughout their lives. Drawing, plasticene and sand modelling will be easier in consequence ; cutting out and tailoring will be helped ; and even cookery will experience the benefit of a good groundwork of tactile training.

The olfactory sense is much more difficult to train, largely as it is a degenerating sense. Our race is losing this sense partly because its use is superseded by that of other senses and partly because it is a sense that can so easily be dispensed with, therefore the necessary senses become sharpened, but the usefulness of those which are less necessary is on the wane. However, in order to have a clear conception of the factors of any particular object, its smell should be associated with it.

Many defective children do not understand what is meant by the smell of anything. In replying to a question about the smell of an orange, many will glibly state that it is round. The earlier exercises should be devoted to recognizing and distinguishing certain well-known articles by their strong smell. An orange or an onion could be shown and smelt by the children ; then these could be put in a bag out of sight not to be touched, so that the child would be reduced to using the only means he has for discovery, and will then discriminate between orange and onion by smelling the bags only. In the earlier stages it is simpler to use objects with marked characteristics in addition to the distinctive smell, in order that these associations may be firmly established. Many fruits and vegetables can be used for this, and the distinctions found and impressed. To distinguish between two or three strongly scented objects at first is sufficient, then objects with less marked differences and more in number,

such as peppermint, red ink, leather, soap, etc. A list of suitable articles for use in sense training will be found below (p. 82).

From the association of smell with a given object to the abstract smell itself is rather a big step. It can, however, be bridged by letting children see known substances dissolved in water, and then they will associate the smell of the liquid with the substance seen.

In using scents it is useful to keep them in their own bottles, so that the child can connect the idea with the appearance of the bottle. Then for purposes of comparison and use, sets of bottles all alike can be utilized. So that for actual use and comparison, a sniff at a square blue bottle gives the key and the same smell has to be discovered out of a series of little plain bottles ; or conversely, the child sniffs at a plain bottle and says that the smell is similar to any specified smell. All bottles should be marked in plain letters, and many of the substances can be used for taste also.

I do not think it is in the least essential for defective children at this stage to be given information about the substance used for sense training ; the whole purpose in the early stages is to concentrate the attention on differences in smell. This training will be a valuable help to the child in understanding object lessons at a later stage.

The training of the *Sense of Taste* is less important than the other senses, because, like smell, it is little used, except, of course, in cooking. There are few substances, however, which cannot be distinguished by one of the other senses. Moreover, this sense in many children is so vitiated by the consumption of impure sweets and strongly flavoured compounds that it is difficult for them to appreciate a delicate flavour or slight difference. This

sense may be made more acute by gradually reducing the strength of difference ; here, again, it is advisable at first to let the child see the substances dissolved in order to connect the taste of the liquid with the appearance of some tangible substance.

A defective child is uncertain in generalization, either jumping rapidly to conclusions or else seeing no points of similarity although such obviously exist. But the sense of taste offers opportunities for generalization : " All unripe fruits have a taste in common, that of sourness," or, " The taste of a liquid becomes less strong the more it is diluted." Such theories can be easily understood and drawn from the children after sufficient trials. For early crude distinctions it may be found more convenient to let the child taste a morsel of the raw substance ; for this each child should be provided with a little wooden spatula like those used by the school medical officer in examining throats. These can serve instead of a spoon for sipping tastes ; they can be marked with the child's initials and washed after each lesson, serving for three or four lessons, when new ones can be given out. Unfortunately these are unsuited for liquids, so recourse has to be taken to mugs or spoons.

In the foregoing suggestions on sense training, it will seem as if most of the work is of rather a didactic nature. I fear this is almost inevitable, but the disadvantages of this will be reduced to a minimum by letting the sense training be very short and slightly competitive ; moreover, only ten or fifteen minutes two or three times a week should be given to this training, while the class should be divided up into easily graded groups of seven or eight children. One group can be sorting colours, cards, etc., while the teacher devotes herself to the third group, and this can be varied each week.

To facilitate the rapid distribution and settling of children and to ensure full utilization of time, a small cupboard or box should be provided in which to keep all the necessary apparatus. A Taste and Smell box can be prepared by fitting a firm sheet of cardboard horizontally into a strong cardboard box; this sheet is pierced with rows of round holes into which are fitted tiny phials containing the various scents. These should be firmly corked while a small piece of cotton-wool is attached to a wire introduced into the cork, this is immersed in the liquid. The children can smell this little wad and there is no waste of material.

*Hearing.*—Perhaps of all defects the most difficult to distinguish is that of hearing. A partially deaf person may live and grow up without knowing that his own hearing is defective, and he may be considered dull, stupid, or even mentally defective on that account. Now, however, the careful investigations of the school medical officers reveal such defects, and where it is possible steps are taken at once to have such a defect remedied; so that now we rarely have a partially deaf child in a school without knowing it. But even so, the acuity for perceptions of sound varies considerably, as do also the rates at which sounds are translated in the auditory centres.

Games involving alertness and precision in hearing must be frequently played. I say games purposely, for there is no better way of speeding up the slow wits than by reasonable competition.

For the earlier stages sound-producing instruments can be used to focus attention on the matter in hand. All kinds of bells, clappers, whistles, rattles, etc. (p. 83), are needed: the teacher stands behind a low screen or the blackboard placed on the ground, and the box of apparatus hidden behind it; he rattles any of these

articles in turn, letting the children guess the sound. Here, again, the child will learn to connect the sound producer with the sound heard, so that even if he could not say "cow-bell" or "policeman's whistle" he could point to it. Quick competition can be ensured by letting the winner of two or three guesses go behind the screen and use the sound producers. At first the number of sound producers used should be limited to about six, and when these are known, others may be gradually added. Common sounds follow, such as clapping the hands, clicking fingers, whistling, making hissing sounds, gradually getting softer and more difficult week by week. Well-trained children can distinguish between a crock tapped with metal and a crock tapped with wood, or the chink of copper on silver coins. These games require perfect stillness to ensure good results, and this in itself tends to focus the mind on the sounds. This concentration can be increased by closing the eyes for short intervals. The calling of a child's name from this silent unseeing company and the children's response recalls Montessori, and offers a field for that self-control which is so often difficult to gain.

One of two games reminiscent of the old "Family Coach" are useful in this connection. A story is told as in that game, but the children instead of noticing certain given names give their attention to noticing words beginning with a certain letter and signify their notice by a pre-arranged signal, such as turning round, nodding heads, or in the higher class marking a corresponding number of strokes on a paper. Initial or final letters may be chosen, both offering scope for close comparison of sound.

Another game involving the discrimination of sounds can be played by a class at any quiet odd moment; one

child stands with his back to the class and one or other call out gently "Good morning, Jack." Without looking round "Jack" tries to detect the speaker and says his name; if he fails, he tries again. For more advanced children a well-known song can be hummed, children guessing the name of it, while a good pianist can play a "Pot Pourri," allowing the children to guess the tunes.

As it is sometimes difficult to find new objects for the sense-training lessons, below is given a list of sense-training materials; also a few of the exercises given to train motor memory.

*Sense-Training Materials.*

1. *Touch*, including kinesthetic and thermic senses.

Mystery bag (each article to be duplicated).

Sandpaper, coarse and fine.
Woollen cloth, rough and soft.
Velvet.
Sticks, long and short.
Board, thick, thin, narrow.
Bottles of hot and cold water.
Spoon.
Wood type forms.
Balls, rubber, wooden, celluloid, golf, and tennis.
Glue.
Glass.
Chalk.
Penknife.
Fur.
Silk.
Satin.
Paper, rough, smooth.
Linen.
Knife.
Brush.
Objects in school.
Iron.
Thimble.
Blackboard rubber.
Inkwell.
Leather.
Leatherette.
Sateen.
Cardboard forms.
Toy animals.
Fork.
Square block.
Wooden disc.
Lead.
Fruit.
Reel of cotton.
Etc., etc.

2. *Vision.*

Matching coloured cloths, splints and forms.
Matching coloured blocks to coloured cloth.
Sorting out similar blocks, shapes, or materials.
Sorting parquetry paper.
Putting pegs in peg-board in rows, two red, two green, etc.
Coloured design blocks.
Simple block puzzles.
Simple fretwork puzzles, to fit in parts.
Copying coloured design in tablets.
Teacher builds with blocks, destroys, and child does it from memory.
Two blocks a certain distance apart; child does it from memory.
Matching uncoloured forms.
Nest of boxes, to open, then replace.
Stringing coloured spools, buttons, beads.
Cutting—free, on straight lines, on curved lines.
Crayon work—filling in form, cup, teapot, etc.
Water-colour washes.
Sorting post-cards, those with one man, a house, red colour, etc.
Matching anagrams.
Sorting letters into compartment boxes.
Sorting words into piles.
Constructing words and sentences with anagrams.
Sentence with word left out—children find the word.
Synthetic toys—Block game.

3. *Hearing.*

Sleigh bells, dinner bell, bicycle bell.
Horns, big and little.
Different kinds of rattles and noise-producers.

Drum.

Marbles—different sizes dropped from various heights.

Whistles, and pitch-pipe.

Toy cornet, bagpipes, zylophone.

Boxes of various substances to be shaken—sand, pebbles, corn.

Watch, tuning-fork, piano—note struck for child to sing.

Let one child close eyes, another calls out, "Who am I?"

One, two, or all children walk across room—one outside says how many.

Familiar tune played—child says what it is.

4. *Taste.*

Salt, sweets, honey, syrup, vinegar, lemon, strong coffee, tea, quinine, ground rice and castor sugar. Flour and starch. Chocolate powder and cocoa. Sherbert powder and cornflour. Water with different flavours.

5. *Smell.*

Peppermint, ammonia, camphor, orange juice, lemon juice, rose leaves, turpentine, petroleum, red ink, onion, cheese, apple, orange.

6. *Motor Memory.*

Lengths of stick felt and compared. Child makes chalk mark on wall, is blindfolded, then finds the mark.

Pinning the owl's eye, or the donkey's tail on picture when blindfolded, after having put finger on the spot.

For older children, see and feel position of well-known town on a big map, then find it when blindfolded.

Various things to be weighed and compared—balls of different sizes and same weight; pill-boxes all the same size, containing different weights of beads or shot.

Sense training in itself is most valuable for all mentally defective children, particularly those of the lower grade, and it must be borne in mind that every well-performed exercise is a definite step in the preparation for all lessons in the higher classes, both mental and manual. A few odd turns, done in a desultory way, are of little use as training, though perhaps interesting as a game, and even exercises which appear easy on the surface, require patience and considerable care in order to be of the full educational value to each child.

## CHAPTER V

### READING

During the last year or two the question of the possibility of teaching reading to certain grades of defectives has been much discussed. It has been contended that the difficulties quite outweigh the advantage gained, that the few elusive words learnt have no practical utility, and, therefore, are soon forgotten; and, furthermore, that the school period is so short and a defective child takes so long to master any subject, that the time may be better spent in its application to the child's life work, whatever that may be expected to be.

The strongest advocates on one side or the other have probably in mind certain typical cases upon which they base their decided views. The one thinks only of institution cases, another of high grade cases, and a third of low grade cases, just as they happen to be especially interested in one group or the other.

We must, however, in school or institution consider each child, and by the most careful examination and discrimination decide what is going to be best for him individually. It is, in the present day, most desirable that every child going into the world should be able to read most of the general signs, notices, prices, etc., seen by him all around. For a big girl to stand in front of such a name as "Long Street" and ask the name of the

road is to show herself up at once as peculiar, and thus expose herself to many difficulties and dangers, but probably no one would think twice of her incapacity for reading the daily paper. Similarly, a boy unable to write his name and address is at once the laughing-stock of his fellows, although the same boy would probably never be required to write more than a simple letter, and occasionally his name and address. The average labourer reads almost nothing, and has rarely any occasion for writing, far though he may be from defective.

Reading can, therefore, be made sufficient even if only a few letters and words are known. But to know none is a great drawback.

Now, under the Mental Deficiency Act, 1913, a percentage of the children in our school will, on leaving school at sixteen, be drafted directly into Homes and Institutions. Here they will be able to conform to every duty in the institution, and be intelligent and useful members without any knowledge of letters whatever. The stories and talks given by teachers and attendants on current events and general information, will take the place of the matter usually acquired during the reading lesson.

Children, wherever they live, whoever they are, are always being subject to new impressions. The torpid, phlegmatic mentally deficient with his lazy brain, is unconsciously averse to the assimilation of new ideas; this aversion increases with growth, unless it is continuously overcome by progressive interests. For this reason, among others, it is most vitally essential that children should have opportunities for obsorbing new ideas, so that they can manipulate and rearrange them in their own way. With normal children natural impulsiveness spurs them on to inquire and investigate and to

ask for stories until such time as ability to read opens up the means of finding out for themselves. But with the defective child, every possible means has to be taken to rouse interest in surroundings, and this frail product has to be fostered with care. Having cultivated and encouraged the interest in things generally, every effort must be made to extend it, by means of stories, nature talks, drawing, gardenings, etc., etc. But without reading one avenue is entirely closed. Although this can never really be recompensed, the loss due to it can be lessened.

However, I feel most strongly that every child who shows any capacity whatever, and certainly every child who comes within the meaning of the Elementary Education (Defective and Epileptic Children) Act, should have a good chance of learning to read, for herein lies a decided possibility of advance.

Although the main purpose in teaching reading is the opening up of this channel of information and knowledge, there is a definite educational value in the learning process itself. Concentrated attention is required from the roving eyes and wandering wits ; visual, auditory and motor memory are implicated in the learning of words and their reproduction ; comparison and discrimination are needed, while care and judgment are required in choosing out the elements in spelling and word-building. Provided that the method used is a sound one, and the gradual building-up process, each step dependent on the former ones, leading from simple to complex, from known to unknown, etc., is followed, the teaching of reading is one of the most logical and educational of the subjects of the school curriculum. No child should lose this valuable education merely because he is mentally defective, whether he is destined for institution care or life in the

wide world. However, a time may come when the educational training involved in the earlier processes of learning to read being exhausted, the child is at an age when the " cat " and the " pot " have no further interest for him, and he ceases to care for books. Surely then comes the moment to discard this well-worn primer, and to give the time to some definite good hard manual training of a more definitely wage-earning nature. In these cases, the general conversation over manual work, will supplement information lessons which provide the necessary food for the defective brain, ready prepared and suitable to age, instead of spending time on the outgrown reader. In some cases children will ask to be allowed to join a reading class, a concession which should almost never be refused them, for if the genuine desire is present, the character building from the effort expended will outweigh other considerations, and the chance must be given under the best conditions, *i.e.* according to the method most suitable to his case. I cannot help believing that when each pupil is delegated to his own type of class, there will be a higher level reached and fewer classes harbouring " impossibles," and, consequently, fewer reaching the higher ages without being able to read.

Generally speaking, however, the pupil of the grade met with in most day schools, is capable of reaching Standards I. and II. readers, and in a few cases Standards III. and IV.

By constant individual teaching, by the method best suited to his capacity, a feeble-minded child may learn to read Standard III. book in anything from four to nine years, reckoning seven as the age on admission and presupposing one or more years' preparation in a good infant school.

*Learning Letters.*—The letters of the alphabet must

be learnt eventually if any real progress in reading is to be achieved. Many teachers will prefer to teach the word-whole before letters on account of the difficulty experienced in analysing; others will prefer to teach letters from the beginning. Letters cannot be learned by simply looking at them and saying them or even by association with an object. They must be learnt by comparison, for the attention and judgment required in the process of comparing helps the child to a realization of essential differences.

Most children readily learn the letter O and can pick it out from a page or pile of letters. The letter S is more frequently known than any other after O. Now a basis of comparison can be begun with these two by sorting a number of these letters into two piles of O and S. Then these two letters can be drawn, made in plasticene, nailed into a tree-trunk, etc., and otherwise connected up with some object. A few of these letters should be placed in the child's own letter envelope and when a further letter is learnt, compared and studied, a few copies of it may be added to the letter envelope. The letter envelope must contain only those letters which are known. When many different letters are before the eye, the child's attention is dissipated, and he becomes confused between those he knows and those he does not know. Moreover, when a new letter is introduced it should be fresh and strange, not old and dull, in order to be especially interesting to the child. We all know the blurred, confused meaning attached to any unusual word which we have met several times but never bothered to look out in the Dictionary. In much the same way, a confused impression attaches to a letter or word in the defective brain. Teachers should be careful to avoid letting a child make an effort round a mistake. This is clearly shown in Madame

Montessori's lesson on colour. If the child calls a red card blue, he is allowed to leave it and think no more about it until the next lesson, when the teacher clears the way by saying decidedly " This is red," and strengthens the impression in various ways. This applies equally to letters. The child says " That is letter M." He obviously does not know the letter, and has hardly given it a thought; if the answer passes without remark, he thinks no more of it, and at the next lesson the teacher introduces the letter almost as a new lesson and impresses it. Now, supposing the teacher says this is wrong, and he must try again, he says, " It is W," and later " It is U," etc., he has connected all these letters during his successive efforts, with the letter he is trying to find. For a mentally defective with his tendency to confusion the Montessori principle is most sound, and should be learned and understood by all our teachers. Again, in teaching reading or letters, we must avoid the temptation to correct a faulty word or letter by introducing another element. The child may say " That letter is M," and the over-anxious teacher will often say, " No, not that letter but this one with three legs is letter M," thus distracting the child's attention to a second imperfectly known letter (had he known M perfectly he would not have called another letter by that name) and causing further mental confusion.

When some letters are fairly well known, they may be sorted from time to time in order to refresh the child's memory and provide some active work for him. Compartment boxes can easily be made in the workshop. A small rectangular box about 10″ by 12″ with sides about 1″ high, is divided by strips of wood fitted into slots in the sides, or else packed with the inside portions of match-boxes. As soon as a letter is known it is pasted

on the bottom of its own particular section, and in time, the whole alphabet can be sorted out.

*Methods of Teaching Reading.*—Rich, expressive and beautiful as our English language may be, it is exceedingly difficult to learn to read it. If it is difficult for normal children, how much more arduous it is for the defective! He is frequently considered to be as undeveloped as a child several years his junior, but he is not as evenly developed. It is this fact which forces on special school teachers the particular observation of individuals in the reading group more, perhaps, than in any other. For example: we will suppose, a common case, a boy of nine whose intelligence according to tests corresponds to that of an average normal child of six years. It may be also that he is slightly deaf. During the past four years he has depended on his observation to supplement his muddled defective powers. It may be that by nature he would depend on his ear rather than on his sight for impressions, but that failing him owing to his deafness, he is especially weak in his equipment. Supposing the Phonetic system of reading to be in vogue in his school, he will surely be backward in this subject; but it may be that the "look and say" method is employed, and he will still be more backward than his fellows although his visual side has been trained by his necessity.

Very few normal adults are equally balanced in the use of their senses. How many could pick out their own shoes from a pile by tactile recognition, although they would not have a moment's hesitation in recognizing them by sight? Yet the differences to the touch in this case are more striking than to the sight.

Now, young children trained by some such means as the Montessori method probably become equally expert

all round, so much so that their favoured sense becomes swamped in the all-round capability, to a degree which it would be quite impossible to develop in older children. But the feeble-minded child who comes to a special school after years of stagnation, has depended almost exclusively on whichever sense was of most use to him. Other senses have become dulled and deadened and are difficult to rouse or to use. After a period of sense-training exercises, it will be seen which is the best method of approach for him.

So at the outset of the training in reading, it must be considered whether the child may be better trained through his visual centre, his auditory centre or his motor centre ; his classification must be made accordingly.

The old Monitor System of Bell and Lancaster was reputed to teach 1000 children to read in a remarkably short time, though it might be considered an uneducational proceeding to-day ; the reason of that success lay in the fact that the combined processes—spelling aloud, looking at the words, hearing them and then writing them—provided opportunity for all the normally developed children and also for those in whom one sense might be poor and some special sense might be more highly developed.

When once the most suitable method for any child has been determined, that method should be used exclusively. It is necessary to use all methods in teaching the different children in a special class, but it is neither reasonable nor intelligent to teach one child by various methods, so that he is utterly confused by capitals, small letters, script, phonic names, alphabetic names, etc. A teacher who professes to use all methods forgets that he, from his full understanding of the whole, is giving the child only a few inconsistent scattered ideas, instead of, as far as our language allows, a logical development.

A simple rough means of determining the child's special aptitude is found in the following test. Selecting three groups of, say, six words as nearly as possible equal in difficulty, write six on the board, and give children stated time (say three minutes) to look at and learn them. After one hour's interval give for dictation. Another day, in the next group of words, spell each word to the class a certain number of times during three minutes, then dictate after an hour. Another day write third group of words on the board and let children copy for three minutes, then later dictate. Repeat the experiment three or four times during ensuing weeks, keeping records of the number correct in each section. Of course, some children will get all right and some all wrong each time, but by these tests, light may be shed on the middle-grade scholars of the class and their special tendencies.

I have as yet no figures, and have seen none, to prove that the majority of persons learn most easily and recall most readily by means of their visual memory, but it seems to me it is usually so. Ask a group of normal adults to tell you, for example, their first thought in response to the words " orchestra, gun, ocean, motor-bus, oven." It is interesting to observe how many will say that a picture immediately rose to the mind's eye, and few hear the sound, feel the motion or remember first the distinctive smell.

Many a normal child of four and a half years can recognize and pick out given words from one of his play-books without any idea of the letters. Children do not analyse, but accept the whole word, a fact which has induced modern writers to advocate largely the word-whole method of teaching reading. Normal children are frequently what the Americans call eye-minded, and it is probable that a considerable portion of the feeble-minded

are also. Every means must be taken, therefore, to train this special or favoured sense. However, as the use of the senses is largely a question of concentration and use as above discussed, some very definite early training should be given in the training of the senses, and this should be carried on parallel to all the earlier stages of reading.

This training begins, as already described, in the preparatory rooms with matching, contrasting, and comparing objects, such as cubes, balls, colours, and so on. Early lessons in letters can be given simultaneously with sense-training, for the letters are found to be helpful soon after the recognition of the word-whole. The little normal child can learn very big words without knowing any of the letters, but the mentally deficient child is older and has often, therefore, more aptitude for analysis.

If the visual acuity is good and a child is thoroughly trained in discrimination, he will have less difficulty in mastering word-wholes than in following the intricacies of the alphabetic methods. It is useful, therefore, to have the names of familiar objects in the schoolroom printed on them; thus "door" can be neatly printed on a slip and stuck on some part of it. Similarly fireplace, window, picture, desk, etc., can take their respective places. A good plan, too, is to fix small objects on stiff black cardboard with the name printed beneath, for use in recognition and application of word object.

This plan is fully discussed in an article by Miss E. R. Murray in "Education by Life." As the aim in this scheme is to impress the picture of the word-whole, the words must be printed in such type as that in which they are most frequently to be seen. For instance, we rarely meet the names of common objects printed in capitals. A word-whole picture "RAT" will not be of much use

to the learner, neither will " THE " ; whereas " The rat " conveys a useful little picture from the Primer which is easily recognizable at a later period.

Cup, can, boat, and such words are suitable, and in some cases a picture may be used instead of an object. These objects may be hung up on the walls after the lesson has been given, but no object and word-card should be put up until it has been mastered. The first appearance is the one to which the maximum of interest is given, and the child will immediately make an association for itself, if the correct one is not first in the field. Great care needs to be taken in selecting these objects that the only possible name of it should be the most striking, or the child will become confused and will only guess. For instance, under a hunting picture of a man riding a fine horse, bearing the word " hunter," mature minds would not require to consider ; but many a child would call the word beneath " horse," while the dull little feeble-minded child will accept " horse " and always muddle (if he ever meets them) the words " horse " and " hunter."

Several varieties of lessons may be given on these objects. The teacher could print the word in small print on board and require the real object pointed out, thus forcing the child to notice the word-whole, to carry it in his mind till he finds its duplicate printed in connection with some object in the room, then produce the name. The words can be built up by means of ordinary word-building letters, from the objects on the children's desks, the object always helping the child to keep the real thing in mind while making the word. At a higher stage children can print the name on their blackboard in response to any object held up.

Those who have worked with defectives will readily recognize one of the striking characteristics of mental

defectiveness mentioned in a previous chapter, a feature which is continually becoming apparent, the lack of mental aggressiveness. To the majority of normal children, given some words to write or to learn, the instinct, on not recognizing one, is to ask for enlightenment, either from a neighbour or from the teacher ; but the defective child is frequently too slow even to realize that he does not know the word ; for this reason the presence of the object is of great advantage in assisting him to make the connection, and impelling the association. A development of the word-subject plan is furthered by providing each child with a box of words, printed on small cards ; then whenever a word or object in the room is mentioned, the child finds his own copy of the word, after fixing his mind on what he is seeking and carrying the form of it mentally. In this way the child has something active to do during the whole lesson. Here, however, is a little pitfall. The child cannot take in a great number of words at a time in this way. Even the best of teachers fail to realize how little a feeble-minded child can grasp and assimilate in one lesson. All have experience of the child who apparently knows certain things one day and has forgotten them the next. There are various reasons for this ; one of the chief is the tendency to pile new knowledge on to the little brain, which has apparently known the lesson perfectly, but which in reality is just making it its own, and is not by any means ready for the little new bit which the encouraged teacher is eager to give. These few extra words, besides failing to be assimilated, just upset and muddle up the latest hardly-won achievements. So, above all, let the impressions be few but clear, and the repetition and varied recapitulation should be frequent.

*Busy-work.*—The standard reached by different children in a class varies to such an extent that, in order to give

each one the fullest benefit for his time, lessons have to be given to little groups of children or even to individuals. It is necessary, then, to institute some plan to engross the others while any separate group is being taught. For want of a better term, we may call this " busy-work." All kinds of apparatus may be made for this, but it is essential that each exercise involve definite action, something to keep the child interested, and something to show for it. All apparatus must be readily available and clearly marked as to stage it is required to satisfy.

One piece of home-made apparatus provides an exercise for " busy-work," such as above-mentioned, at a later stage. A big coloured picture-book or post-card album is given to a child, accompanied by an envelope containing slips of cardboard on which are printed the names of a number of the articles represented in the book or album. The child then goes through the book, placing the appropriate card on each picture till all have been disposed of. This may be graded by numbering the books and corresponding envelopes, and by letting the earlier ones be very simple and allowing for some recapitulation in the later ones.

A slight but useful advance on the " object and word-whole " may be made with a small card about 3″ by 2″. On one half of the card is a clear definite picture of some object, say a shoe. On the other half is printed twice in small letters the word " shoe," once in the top and once in the lower quarter. In preparing the card, the lower quarter bearing this word is cut out. It is essential that the corners of all cards be the same shape and size, otherwise the children may tend to notice merely the shape in order to escape the mental effort needed in noticing the actual word. The cards may be used in various ways, but for busy-work a simple expedient is to give the child

a certain number of cards mixed up and the corresponding corners. The cards are then laid flat on the desk, and the excised portions found and fitted into the corner space.

When the words are pretty well known, a class game similar to the old-fashioned Happy Families (a card and its corners going to form a family) rouses an interest in the recapitulation.

A scheme for recapitulatory word-building can be successfully evolved by means of a board similar to those used in churches for putting up the numbers of the hymns. Two or three slots are arranged. Any series of sounds may be used, for example, "at," then "it," and "et" could form the root, and the child would slip these right to the end of the slot. He would then use one letter in combination with the three syllables, slipping it in front of each in turn and saying the syllable. This scheme admits of considerable expansion, while the fact of the slipping-in process being one that children enjoy, will ensure a good deal of work being done. The love of fitting-in and piecing-up may be utilized too in teaching the names of objects in another way. Take any cardboard jig-saw puzzle with a good many parts. On the back of each, print in small letters the name of the part. Lay out the picture face downwards on a sheet of cardboard; then picking up each piece, print the name on the cardboard underneath. Thus the cardboard sheet has all the names of the parts in the places to which they belong. For a busy-work exercise the cardboard sheet and the bundle of pieces are given out. Each piece is laid face downwards on the name, and when all pieces are fitted in, the whole can be turned over and the perfect picture is shown with each little piece fitting into its place.

Another plan is to give out cards on which a clear picture is pasted, and under which the name of the object

is printed. The child then makes up the word from the letters in a letter-box. He has to keep the word-whole before him, and he makes it up out of the parts, thus teaching himself something of the synthesis of word-building.

A further stage of busy-work consists in putting together well-known poems or nursery rhymes. For instance, all the words for some little verse, such as "Work while you work," are printed in small letters on strips of cardboard, and are kept together in an envelope. The child knows the verse, and recapitulates it once or twice; he then proceeds to lay out the words on his desk in correct sequence. Of course, he must have learnt the words, or at least most of them, previously. In fact all busy-work exercises are, by reason of their very nature, recapitulatory.

It will be noticed that so far the whole attention has been given to words, names, and objects. When words are well-known, the child begins to look for sentences about the objects. In this connection nursery rhymes or simple poems serve a useful turn; being comparatively easy to learn and appearing to the pupil to be rather advanced, they are a special incentive to the bigger children of an intermediate class.

The Aldine System, used so widely in the United States both for normal and feeble-minded with great success, is based on this idea of learning the word-wholes in a certain sentence and impressing them by constant recapitulation and a very gradual advance. Mention may be made here of one lesson. It consists of learning graduated little rhymes, such as :—

"Come with me,
Come to the tree,
Come to the tree and play with me."

This rhyme is printed on a long strip of thin cardboard, affixed to the wall and the children learn to repeat it by heart. It seems such an important piece of reading, particularly to the bigger children, who hate having to read the little baby words in the first primer ; even though they feel every word is a difficulty, it injures their pride. The rhyme is learnt very thoroughly so that it can be repeated by each child, read backwards or forwards as the words are indicated, and any word can be picked out. The next step is for the child to make the rhyme with his own word-cards (letters being too slow, difficult, and distracting at this stage). Each pupil has a box with each word printed on a separate small strip of cardboard, after the fashion of letter boxes, but the printing should be rather larger than in the average reading-book. He thus recognizes a word, and by repetition of the rhyme, he finds it again and again until he really knows it, while by comparing it he is impressing it on his mind. There are several games and exercises possible with the rhymes ; picking out a word asked for by the teacher either on rhyme or from envelope ; finding word similar to certain one shown ; finding word asked for by previous winner ; and finding out all words known and making rhyme with them. In the word boxes it is advisable to keep only the words known, and when a new rhyme has been learnt, children can pick out new words learnt, from the teacher's store and add them as permanent possessions to their own little boxes. This also forms a little record of work that has been known, which is of great use in testing those children who have treacherous memories. Moreover, it keeps a clear impression, unclouded by the pitiful veil of constantly seeing words which the child realizes he cannot be expected to know.

It is needless to adhere slavishly to any one set of

rhymes, but a resourceful teacher can easily work out a little scheme, carefully graded and introducing constant recapitulation which will suit the conditions and interest of her class.

Leading on from the rhyme method of learning by doing and work with words, comes reading from books. Unfortunately, there are very few really good reading books for mentally defectives. The simple picture and the two and three letter words which delight the babies in the infant room quite fail to attract the boys and girls who are already taking an interest in the wider world, in people and things outside, though they have not yet reached the stage of an Infant Primer in reading.

When the reading-book stage is reached, great care should be taken in the early stages to choose small books. Many of the twopenny and threepenny paper-covered books are quite suitable. The pleasure of a new book will tide the child over the earlier difficulties of reading, and by the time the book begins to seem a little bit old and dull the end will be in sight, and will spur on the child to finish it. Blackboard exercises, word-building, word games and other reading devices should be taken frequently, quite apart from the reading lesson, but based largely on the matter of the last or the next reading lesson. Besides this, conversation must centre round the reading lesson, so that the child may realize how much he can learn from his reading book.

In the higher grades, usually one child (or perhaps two) in each class is a really good reader; for such children a pile of varied story-books should be kept and lent to them from time to time for silent reading. As an encouragement they may be allowed to read to the children when they are doing sewing or knitting; or they may retail the stories for oral composition.

The Merry Readers (Nelson) are based on the nursery-rhyme scheme and are excellent ; the first two books might well be adapted to such a plan as the Aldine, for defectives. However, for purposes of individual work, each child would need the words of each rhyme printed on little cards, while the whole rhyme would need to be printed on card large enough to be seen from all parts of the classroom. This would involve a good deal of extra time on the part of the teacher to prepare these words.

There are two series of Sentence-Building Boxes which are of great value in recognizing and impressing the word-whole. They are particularly well-arranged, for they contain nouns, verbs, adjectives, etc., sufficient in number to form a variety of little sentences. Such words as the definite article which are frequently seen at the beginning of sentences are provided with a capital initial letter, so that children easily learn the connection between " The " and " the."

After a good deal of practice in recognizing, pronouncing, and employing words, the child can begin reading. Before he reaches this stage he would only be discouraged and overcome by the vast difficulties which lie before him when he realizes what a mountain even tiny words can sometimes be.

When reading is begun, frequent correlated lessons in oral composition must be given ; whatever is read should be entirely understood and talked about, so that the child can realize from the outset that reading is essentially a means to the pleasure of acquiring information.

The Montessori ideal that a child should understand what is written before he is required to read it aloud can be profitably adapted to the feeble-minded. One or two little exercises in silent reading in order to give the

substance of the sentence or paragraph might be given during each reading lesson. At the beginning of a group lesson, when interest is keen, it is valuable.

A transition may be effectively made by utilizing the little cards of known words to form a little story out of a reading book. The child is thus encouraged in finding how much there is in the book that he really knows.

We all know the difficulty experienced in trying to get a feeble-minded child to "learn" anything, unless at the same time he is doing something, yet many a time a teacher wants to give extra attention to one group, but is loath to tell the others to continue reading silently on account of this faculty for remaining inert or getting into mischief the moment they have nothing to "do." The suggestions outlined above are designed to give the child something very definite to do and at the same time something whose constant repetition will strengthen previous impressions. Some amount of activity can be infused even into a silent reading lesson. The child can read through a paragraph to see that he knows every word. Any word not known should be written down on a list. The very fact of writing it down often recalls the word to remembrance. Then the teacher goes over the list, helping with the difficulties, and the child has a second trial at learning, going over the whole piece again in the same way. Finally, when his turn for reading comes, he can probably read the whole page without a mistake with great pride. This is often a slow process, but being a self-taught process will be all the more certain.

Among the necessities of social life must be counted the ability to read simple signs. "Keep off the grass." "Knock and ring." "All cars stop here." "Push." "Pull," and many others. Signs of this kind ought to be known by every child, whoever he is. This should be

supplemented by power of recognizing the names of the neighbouring suburbs to which children may go by car or omnibus, and the names of familiar and neighbouring streets. These can be printed in the type in which they are most familiar, and may form frequent interesting lessons. The names of streets and suburbs can be well learnt in connection with the game of trams (p. 144), or trains.

Again, for sharpening the slow ones, orders written on the blackboard to be performed by the first one who can grasp the meaning makes a lively game. "Shut your eyes." "Put your hands in your pockets." "Bring me a ruler," etc., are examples which can be varied and developed to any degree, and have the advantage of placing before the class some reading matter which the children really want to be able to read.

An advance on this and an exercise involving observation and a good deal of oral composition, consists of the description of a picture in the room. This description is written or printed on the blackboard by the teacher without saying which picture is intended. The effort of the class is directed towards the discovery of the picture, then towards the sentences composing the story. This gives scope for original composition based on a model, and is a favourite with children.

Short stories may be used in a similar manner; the first endeavour is to find out which story it is that is written, and this helps with the more difficult words. Conversation on the story will accompany the reading lesson, to ensure the understanding of the matter read. In this connection, too, when reading books have become a familiar possession to the class, a few words or a sentence from the book may be printed on the blackboard and the children encouraged to find the place in their own books.

It is important in all these early stages that matter on the blackboard should be printed ; the printing must be very clear, devoid of flourishes and closely resembling the print in ordinary reading books, so that the child's mental picture is not confused by minor differences. Every teacher should practise printing clearly and rapidly, if a printing-press is not procurable. In the recognition of the word-whole so much depends on clear, careful printing, that a small printing set should be a part of the equipment of every school. Satisfactory sets of letters containing both capitals and small letters besides figures may be bought for seven shillings and sixpence or ten shillings. Tubes of printing ink cost one shilling each. If many cards of different sizes are needed they can be cut up by the teacher. A cardboard cutter, such as is used by photographers, simplifies the process of cutting and ensures accurate measurement. The cutter consists of a flat board marked off in inches along two sides. A knife is attached to one corner and moves up and down in one plane along the side of frame. The outlay for this may be rather high in the first place, but it will last for many years, can be used by several schools, and will mean a saving in the long run, as the cards properly cut from sheet cardboard last longer and are cheaper than bought cards.

Without going into the question of word-deafness or word-blindness, some consideration may be given to the means for training such or similarly affected children. Here we have an especially difficult problem. There are people, and a considerable number of them, who without being mentally defective, are actually word-blind ; they cannot recognize the meaning of printed words. They can, however, learn to spell words and can discover the word and its meaning by spelling it. The learning of

reading for a word-blind person is a stupendous task, for he has first to learn the letters and then learn each word separately by means of spelling. A person of average intelligence possessed of a considerable degree of determination, can in time learn to read slowly; that is, he can read silently almost at the rate that one would read aloud. He will also probably be able to write from dictation with some facility but slowly.

Normal sighted persons are sometimes called upon to read Braille type. At first sight a word means nothing to them, but by dint of spelling out each word letter by letter, they are enabled to read and take in the sense of a passage; those not accustomed to the type will always find it more convenient to spell each letter. It is possible that a normally intelligent word-blind person will learn to read Braille more quickly than print. At the present moment I have under observation a bright intelligent boy of twelve, who is being especially instructed in this way, but it is too early yet to judge of the success of the experiment. He was diagnosed as word-blind.

For the mentally defective, however, with his weak will and poor powers of concentration the task is an arduous and usually unsuccessful one. Tests given periodically reveal the general rate of progress of a child, and it will be seen if the rate of recognition of words is strikingly less rapid than the ability to spell them and disproportionate to his rate of progress in general subjects.

As reading is the master key to all kinds of knowledge, it is essential that every child should have ample chance to prove his ability to master it; as a rule, when a child is especially backward in this subject and has been officially designated as "word-blind," some attempt should be made to instruct him by means of spelling.

The word-deaf child is rather a different matter. He

hears sounds but they convey no sense to him. Meaningless noises such as songs of birds are all he perceives. It has been suggested that our language sounds to a word-deaf person like conversation in an unknown tongue; this is not so, however, for on hearing an unknown language, a normal person will listen for words similar to those of his own language, and will read that meaning into them, whereas actually there is no meaning at all for him in the songs of birds.

Normal word-deaf children frequently may be taught to read with marked success, and they can understand their reading matter; but the difficulty for them is to learn to speak. As a rule, they will require to be taught lip-reading and speech in the same manner as deaf children. But this requires an amount of intelligence not usually possessed by a mentally-defective person.

Above all, the main object in teaching reading to the feeble-minded is to ensure a thorough knowledge of a few words, those words which according to our aim, will be of most use to him when he goes into the world. If he has common sense and the desire, he can build on from this foundation; and if not, to know a few things thoroughly will be of more use than to be able to read a number of pages, inaccurately and unintelligently.

If, however, after a fair trial, progress is not made, some other means must be found such as described in the chapter on Manual-Oral Class to give children what they cannot acquire by reading. If the child is improving, even slightly, and is still happy, in his reading, let him continue it to the end.

BOOKS OF REFERENCE.

Brown-Smith . . . "Education by Life."
Huey . . . . . "The Psychology and Pedagogy of Reading."

## CHAPTER VI

### ORAL LESSONS—THE MANUAL-ORAL CLASS

THE teaching of defectives resolves itself into oral teaching to an extent that is unusual except in an Infant School, while the children taught may be approached in much the same way as normal young children, although the material used must be of a different nature.

The essentials to remember in oral lessons are chiefly two: first, that the feeble-minded child, whatever his class, is slow to hear and to grasp; and secondly, the oral lessons must be largely the child's own performance and therefore within his comprehension.

He has a meagre, inaccurate, and incomplete vocabulary; he has an imperfect understanding of many of the words he hears, and he is slow to grasp even the words he knows quite well. In the oral lessons, the teacher must keep a careful look-out for the words generally used by his class, and must carefully lead the children to use more accurate words with complete understanding, by gradually introducing new words with careful explanation and by using language which really is understood by the class. This applies chiefly to the lower grade defectives, in whose case one might often say twenty monosyllables would be the limit of speech.

Even medium-grade defectives are considerably retarded in speech as compared with the normal, and we

know that even the normal child has difficulty in expressing as much as he understands.

However, it is a prime necessity of life that every one should be able to express his needs and thoughts and describe his experiences in suitable words. So, in order to bring our children up to a more normal standard, we must give them much practice in language, and by this care in speech and enunciation, words will help largely to clear up the muddled minds, and be later of great assistance to correct reading. It is an astonishing thing how few words are used by defective children and with what constant elision. Take, for instance, the well-known words from the Binet-Simon test, v. 3 : " His name is John. He is a very good boy." I have recently examined over 150 children of whom over 50 per cent. offered some such version as this : " S'name John's' verygooboy " ; but the verbs simply did not exist. It is quite comprehensible then, that a child reading or being required to recite " He is a very good boy," would not see the sense of all these words. He has a blurred consciousness of the whole quite apart from the definite thought expressed in each word.

The aim of oral composition is, then, to give the child some means of expressing himself in simple language of which he really sees the purport and necessity. It has been demonstrated more or less conclusively (though any one who doubts would find it a most interesting bit of research) that in looking at a picture with plenty of movement in it, in answer to the question, " What do you see in this picture ? " 75 per cent. of normal children at seven years, with no further help whatever, will describe the action taking place. They will say, " The boys are paddling " ; " The girls are making a sand castle " ; " The baby is playing with a spade," etc. Of normal

children of three years, 75 per cent. will answer the same question by pointing to the picture and saying, " boy," " baby," " sand," " boy," " spade," etc., on each occasion. Normal children between three and seven vary from simple enumeration to qualified enumeration, " big boy," " pretty flower," " blue sea." Then comes some enumeration and some action with it until the answer gives chiefly action: the descriptive action progresses until it develops into the interpretation of pictures such as is given by the fifteen-year-old normal child. Now bearing these figures in mind, let us note that, according to the Binet-Simon scale, the children in our schools vary in intelligence from III (which is sometimes found in the lowest grade) to VI in the lowest classes of our schools; while VI to VIII-year intelligence is found in the intermediate part, and VIII to XI in the highest classes. It is obviously impossible in the lowest divisions therefore to obtain more than a simple or qualified enumeration, with a gradual transition into very simple descriptive action. Anything more than this will, as a rule, degenerate into mechanical repetition, and will be of little use in the child's vocabulary. Let him, then, have plenty of practice in enumeration of things seen, being sure that he connects the name seen with the real object; he is so liable to repeat some words that take his fancy without in the least understanding them. For this reason enumeration of things in classroom and the naming of things seen in pictures is a good beginning. These lessons should embody a good deal of articulation, taken as a game, and it should be borne in mind that a little done thoroughly is best. One reason that the young defective is so backward is that he has never been able to know anything thoroughly. The bright little people in the Infant School are ready to absorb all that is given them; but the

backward child only accumulates scraps of undigested information, till he ceases to have any interest in lessons.

Of Nature lessons and Object lessons there is no need to make any note here. There are several well-written fresh suitable books for Infant Schools to be had. These can be utilized for the junior classes of a Special School with this proviso : the method as a rule is suitable, though of course the wise teacher adapts it to his own needs, but care must be taken to provide interest from the material, suitable to children who have run about, seen and heard plenty of things, though their minds are only the minds of infants. It is here that the chief difference lies between the infant and the defective child. The training required by the mentally defective is not merely an adaptation of Kindergarten or infant training, for the whole basis of the work is different, and the fundamental differences must be taken into consideration in determining the methods in much the same way as the curriculum.

To the intermediate grade, the above remarks on nature and information lessons apply equally, but the oral composition is a more difficult matter. Here are little people of ages between seven and eleven, roughly, of an intelligence equal to that of a normal child of from six to eight years. Their speech is slovenly, their understanding is poor, their needs are few, but withal they are satisfied with their accomplishments. It is, then, the business of the teacher to create the desire for something better without for a moment distressing the child by letting his lack become apparent to his class-mates or to himself.

Articulation should form an almost daily exercise, and this taken, in the form of a competitive game, will ensure the child putting forth his best effort without the prominence (so repulsive to certain self-conscious natures)

of being singled out for praise or for special instruction in the presence of the class.

Again, in oral composition it must be borne in mind that the majority of children in our Special Schools will describe things in terms of use; at this stage the whole *raison d'être* of a fork is "to eat with," and he troubles himself no more about the matter. Gradually, of course, he will come to a wider conception than use, that it is made of something, and this something is not the same something of which the knife is made. It is a long, slow process before the realization of this is reached. However, the main proposition for the teacher is to find out the stage at which most of the children in his class have arrived, and to provide them with suitable exercises for that stage.

A gradual transition comes, but the defective brain must be at home with this early process before he can reach out—a moment which will be joyfully observed by the discerning teacher.

The loquacious type of child must not be regarded as having a higher intelligence, for a few leading questions will soon reveal his mechanical volubility on the subject and his ignorance, and he must be taught to think a little more before talking so much.

A useful game, on the lines of "Clumps," may supplement these lessons, and will encourage the child to express himself clearly in order to be understood by others; it holds the attention of the class, and teaches the listeners to look out for the essential points. One child is chosen; he thinks of a subject, which he communicates to the teacher. (This is a practical necessity at first which may be omitted later.) The other children question him about it, and in answering the questions the nature of the subject is disclosed bit by bit, and the first one who guesses it is

the new "He." In order to prevent guessing, he must first explain what caused him to think of this subject. For instance, when told that it is made of gold, many children will cry, "your watch," and some little subsequent explanation is needed in order to follow the reasoning by which this surmise has been reached, and to train logical sequence of thought. The teacher can often stimulate clear thinking by a well-timed remark in such a connection. The answers to the questions will gradually eliminate irrelevant matter from the wide general conception until the required object stands alone.

*Oral Composition.*—Probably no form of oral composition so genuinely fulfils its purpose as dramatizing. I do not mean acting Shakespeare or pieces which abound in melodious verse, perfect as they may be for some occasions, but just the acting of simple little stories and "pretending" bits of everyday life. Stories told expressly for the imagination training will be kept quite distinct; they must be used for nothing but pure enjoyment, and must live and grow in the child's own mind, and never be used as a lesson or questioned upon. They may be told over and over again, until the child's mental picture becomes clear and vivid. We believe that good, well-told stories are of great importance in stimulating defective brains, but we must rest in the belief, and never probe to find results. No Special School teacher should miss an opportunity of hearing Miss Marie Sherlock lecture on "Story-telling," and much inspiration and benefit can be gained from her writings.

There are many stories which lend themselves admirably to dramatization, but they will need to be just ordinary everyday little stories well within the understanding of each child. The object here is to keep the subject-matter so simple that the child has several ways

of expressing each thought, and will use his whole effort for this rather than searching round in his mind for what he may consider to be the correct expression. Innumerable are the little stories that can be used, but they must be short, simple, and have some human touch. Take, for example, the old-time tale of the Queen, who, while having lunch one day in the garden, saw some school-children peering through the gate. She called in two of them to her and gave them each a banana. Neither had seen a banana before, and she asked them how it tasted. The smaller boy, without a moment's hesitation, replied that it tasted just like a sausage. Such tales should be told in direct speech, so that the spoken sentences might be repeated several times in different ways. They would be easily retailed by one or two of the better historians of the class, and then parts could be assigned to the others for acting. It would bring in the polite manner of speaking to a lady, of saying "thank you," and of replying. So that even the fixture of these few phrases would give children an idea of nice manners. The method can be varied by allowing a boy to represent the bigger boy and tell the story as he would tell it at home afterwards; or a girl could represent the Queen and could tell the story as if she meant to do it to-morrow. This would involve a good deal of imagination, and even among the more intelligent children would require considerable readjustment to circumstance, which is so difficult yet so necessary.

Many adaptations on such tales can be made; historical tales serving well. The teacher will find it useful to make a list of all the stories that he may come across which could be used in this way, and should note beside the name of each, the particular lesson in language that could be learnt from it.

When the children have grasped the principle and

have learned to forget themselves in this kind of dramatized story, they can have a practice in little scenes of everyday life: shopping, asking the way, taking a railway ticket, or tram ticket, visiting a labour bureau—these and many other dialogues, short but useful, will draw out all sorts of suggestions from the children. This being pretty well attained, it is enlightening sometimes to ask the children to improvise. They do this frequently in the playground—especially the girls, playing at houses, schools, etc. The theme might be suggested, and the children will take their own parts and just think out in natural sequence what they will say under the circumstances.

There are many occasions in the lives of poor children when they look rude and stupid simply because they do not know how to act or what to say. Any one who has visited in the homes of the poor will recall the usual response to his knock at the door; after a long interval the door is opened a few inches, a head appears, stares, and disappears, and after a few seconds reappears, etc. Now, surely such a thing as the correct way to open the door could be taught in schools with advantage. Anyhow, such an exercise is a most useful and practical little bit of training in Special Schools, in manners, speech, and *savoir faire*. An enterprising teacher will be able to introduce many little scenes which will render the general expression of each member of the class more fluent.

Developments of the games in preparatory class will give scope for a good deal of free conversation. In this way children learn to speak at the right time, and control the desire to whisper when they should be silent. Do we, who can talk as much as we like and when we like, ever realize the agony of keeping silent when we badly want to say something? How tired the class may be hearing

only that one voice incessantly! If the children have plenty of opportunities of expressing themselves it will to a great extent change their attitude to the problem of "goodness."

## The Manual-Oral Class

Mention has been made elsewhere of what is sometimes termed a Manual-Oral Class. It may well be discussed in connection with the general question of oral teaching.

Each child, on entering a Special School, is made the subject of most careful observation, much more so than can possibly be the case in a large normal class. He is tried and tested to find out how one can best reach and use his particular strong points and how the training of these will supplement the deficiencies due to his weakness. Each child is given every possible opportunity for learning reading and number. He is tried by all methods until that which is best suited to his particular habit of mind is discovered. If, however, on attaining the age of eleven years, he is still unable to read with fair fluency an ordinary Standard I. reader, he has probably gained all the educational value which he is likely to derive from the learning of reading. During all these years he has not learnt to concentrate his attention on the words, to use his synthetic power in combining sounds, to look out for essential differences and similarities in words and letters, and to bring his judgment and observation to decide the probability with which any particular word will appear in any particular sentence; if he has still failed to gain these from his reading it is unlikely that he will do so with many years of further training. Moreover, he has not been able to learn to read, which is indeed the crucial point.

According to evidence before the Royal Commission

on the Care and Control of the Feeble Minded, it is rare for defectives to reach a standard higher than an ordinary Standard III. in reading, although rather more than 50 per cent. do reach Standard II. At the same time, it is estimated that about two-thirds of the children can manage to read fluently at least Standard I. by the time they leave school. It is debatable whether any knowledge lower than Standard II. will be of permanent benefit to a child in its future life. Is it then wise to continue the arduous work of reading when it is manifest that the child will never gain sufficient advantage from it to justify that continuance? At what age, then, is it safe to abandon this subject? It has been found in Birmingham that a safe decision can usually be arrived at between the eleventh and twelfth birthdays.

A similar standard is taken at Vineland, the famous training school in New Jersey, U.S.A., where for upwards of twenty years records have been kept of every case. The conclusion that has been reached there coincides roughly with our own: that any child who is under VIII years mentally (by Binet-Simon Tests) and over twelve years of age chronologically, does not justify the continuance of lessons in reading. The curious transition from childhood into adolescence about this age makes any definite change in training suitable, and allows for abandonment of a subject for which a child has shown a real permanent incapacity. Such children are then formed into a Manual-Oral Class.

In practice, this class, as a rule, comes to consist of those children who have been in the preparatory class and by reason of the feebleness of their intelligence have been unfit for the lowest ordinary class, but at the same time are fairly good with their hands. On the whole, they belong to the lowest grades of mental defectives in school,

but are the older children. Moreover, they are usually the ones who will remain at school until sixteen, and will require permanent care afterwards.

By what, then, shall reading be replaced, and to what extent? We have to consider what benefit a normal child of this age, say eleven, twelve or thirteen years of age, naturally gains from his reading. He usually wants to know all kinds of stories, historical, geographical and imaginative, while he has frequently a bias towards real history and knowledge of the things which he sees around him.

In the Oral class, therefore, the endeavour is to instruct the children by means of stories and oral lessons in common everyday events suited to the stage of comprehension which they have reached.

The proportion of time to be given to each part of the curriculum is the next consideration. Of course, in the first place, manual training proper will occupy half of each day, while oral instruction and physical training will occupy the other sessions. Physical training will include recitation and singing, as well as drill. These subjects will take about three-quarters of an hour each day, leaving perhaps one and three-quarter hours for the actual oral lessons. There is no reason whatever that these subjects should be in water-tight compartments, and one will often merge into the other. It is as well to record roughly the proportion of time given to each subject. The work of the Manual-Oral Class will consist chiefly of practical concrete number work, an occasional period for writing, and the oral lessons. Weighing, measuring, and simple shopping will come within the scope of most of these children. It will probably be found impracticable to do any bookwork, but the way of setting down and calculating the simplest numbers in the first three rules can

be practised on blackboard or on rough paper by some of the children. It is curious to note that, so specialized are the capacities for learning, that some mentally defectives who have fairly good synthetic power (in grasping, for instance, that half a crown and fourpence halfpenny form 2*s*. 10½*d*.) are unable to use the synthetic power required to form a word out of a combination of letters.

It will be found, therefore, that there is a considerable diversity of capacity for arithmetical conception in this class, and it will be necessary to group the pupils even more carefully than in an ordinary class. Many calculations of a valuable character will be introduced quite incidentally to the general subjects of discussion; but some definite work on any simple scheme will prevent the number lessons becoming too desultory, and will also give scope to the different capacities above mentioned.

Writing is so closely allied to reading, and depends on the latter to so large an extent, that it is not possible to practise the one intelligently at this stage without knowledge of the other. It is advisable, however, that the children who have any facility should preserve it by writing down such verses or names as they may know. Every child also should learn to write his own name and address, together with, perhaps, figures, common titles such as Miss, Mr., etc. If this, then, is sufficient for normal labourers, the defective can pass muster without attaining a high degree of proficiency therein. So a few minutes given occasionally to writing of this description may help to preserve the facility.

The great difficulty here is that the oral lessons tend to become dull and stereotyped when taken so continuously, so that some plan has to be devised for ensuring the bodily and mental activity of the children. However interesting the lessons, the paucity of ideas among the

children makes the response poor and rather dull, so that after a short period, ordinary lessons of this kind day after day may become flat and colourless and resolve themselves into short orations on numbers of loosely connected, or even disconnected subjects. Now, the essence of good teaching for defectives is contained in the expression "learn by doing," therefore the oral lessons may be best adapted to lessons in hand-work combined with conversation about the object constructed. The hand-work will go on in the ordinary way as desk manual, and after a short, terse, and definite discussion of it, the children will set to work to reproduce some part of the lesson, continuing their conversation about it both among themselves and with the teacher during the whole lesson. In this way the teacher has an opportunity for talking quietly to each child, and gets to understand his outlook, while he sees by the reproduction and by the child's questions about it, exactly how much the child has assimilated of the subject in hand.

The syllabus of the oral lessons will depend on two main considerations :—

(*a*) That the subjects included are those which are nearest to the child and have an important bearing on his daily life.

(*b*) That they offer scope for some kind of reproduction by means of simple hand-work.

The second of these considerations is probably the most difficult to deal with, for the introduction of manual work as a core for a general information talk may render the lesson slightly artificial. However, this difficulty may be largely overcome by allowing each child freedom to follow out the theme which most readily presents itself to his mind. All may be different ; each may be worked out with a different medium, but all will offer scope for

education. Drawing, painting, chalk, clay or plasticene, sand, strip-wood, brown paper, cardboard light or heavy, wool and cotton may all be utilized to further the interest of the child in the lessons. Then the subjects which are really of greatest interest to the children are living, ever-present persons, customs, events, and daily needs.

Time is so short in school, that only the nearest, most important and interesting subjects can be touched upon, and there is no time to devote to Ancient History, or the Antipodes, however interesting they may be.

Everything must be taken in the most elementary manner possible, and should be definitely correlated to some part of the child's own surroundings.

A few suggestions are given below of the kind of subjects which may be useful, together with a mere mention of the possible medium in which hand-work may be produced.

| | |
|---|---|
| Various kinds of food and their values | Clay. |
| Growth, animal and plant life . . | Crayon. |
| General principles of hygiene, personal and domestic . . . . . | Wood. Paper. |
| Clothing . . . . . | Weaving. Drawing. |
| Insurance Act. Uses and manner of using . . . . . | Writing. |
| Postal and telegraph service . . . | Writing. Telegraph game. |
| Current events. Anniversaries. Newspapers and books . . . . | Printing. |
| Geography. Hills, rivers . . . | Clay. |
| Neighbourhood . . . . . | Clay. Crayon. |
| Union Jack . . . . . | Painting. |

After a few months of this special kind of activity, it

is astonishing to see how much keener and brighter some of the children become. They are enabled by this means to take their part in ordinary conversation in their own homes and among their fellows, and although this may be slight, it enables the child to realize that something which he has learnt at school is of use to him out of school. This refers chiefly to current events, topical allusions, and lessons on ordinary everyday customs and ways.

It may then happen that a child, realizing that reading is no longer part of his work, will ask to be allowed to take it up again, or it may be suggested to an exceptional child as a good possibility or incentive. If he really wants to learn, he will work hard and may make some progress. In any case, even if no appreciable progress in the subject is made, he will be training his own will. Otherwise, if the choice of children for the Manual-Oral class is in the first place well weighed and correct, little good will be done by giving a further trial.

However, if by means of the work done in the Manual-Oral class the child has become brighter and more responsive, the experiment is well worth the effort, even though the outcome may not be measured by items of information gained, and may not be more than slight during his school life.

It is, however, satisfactory to feel that the child, withdrawn from work in which he could not progress, has been given the advantage of another kind of instruction and has benefitted thereby.

BOOKS OF REFERENCE.

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## CHAPTER VII

### NUMBER WORK

It has come to be almost accepted as characteristic of our children that they should be deficient in number sense. This may or may not be so, but it is probably noticed because this subject admits of a very definite standardization. In examining children we can say of one with tolerable exactitude: "He can count three objects, but fails at four;" or of another that he can add $1\frac{1}{2}d.$ and $7\frac{1}{2}d.$, but fails at $10\frac{1}{2}d.$ and $6d.$, etc., etc. Whereas other more important factors of mental defect one can only vaguely define in such terms as: weak will-power, or uncertain reasoning. It is not really that the child is more mentally deficient in this particular—number sense,—but it is more easily measured and can be spoken of with greater certainty. Still, the fact remains that these children do lag indeed behind in the normal schools with their number work. This may be due to defect which makes the child really unable to grasp number at all. For instance, to such a child, in the expression, "five balls," the word *five* seems to be just as much an attribute to the balls as the word *blue* would be in saying "blue balls." It is curious to note how often children do think of an attribute in this way. Right hand, for instance, appears to be the proper name for that member, while twopence halfpenny is taken in the same way to mean one thing.

Perhaps the child's mind, through working slowly, may not follow a lesson on any particular value, and so becomes utterly muddled by the half-knowledge of various numbers. This happens frequently in the case of children who can really only be classed as backward, for they have been much slower than their fellows to grasp the number taught. Yet they have, as it were, streaks of imperfect understanding. In examining such children for admission to a Special School, it is particularly important to test them very thoroughly if, as sometimes occurs, their random answers reveal some occasional sparks of knowledge. Is it confusion of values or is it lack of comprehension of number? In filling in the progress books of new-comers the greatest care should be exercised in stating exactly what each can do. It is wise to state two or three examples of what he can accomplish, and one or two examples of what he cannot, in order to define the exact limit reached. This should be done in (*a*) counting objects, (*b*) adding numbers, (*c*) subtraction, and (*d*) in the manipulation of moneys.

The teacher has then a clear basis from which to begin work, also a definite stage in the measurement of progress.

Number work is a great help to exactitude and accuracy, and calculation, even in the lowest grades, has a definite value as mental training. Moreover, the moral training is good and often most encouraging. There are so few things ever done by a defective child which are absolutely perfect. He is often praised, told that his work is very good, etc., while many a time he knows quite well that it is not perfect; but, when an answer to a sum is correct, he has the genuine satisfaction of knowing that it is so absolutely correct that no man, however mathematical a genius, could make it more correct.

In dealing with number work, we must decide at the

outset how far number work is necessary for mentally defectives? This, of course, depends largely on another consideration, that of the probable future of each individual. If he is certain to be an inmate of some institution where life is so ordered and regulated that few dealings with number or money are necessary, only short time need be given in school to calculation, and this need not go beyond the practical consideration of simple numbers such as are likely to be of use, and the recognition of numerals, little written work being needed. If, on the other hand, the child is to take his place in society, it is essential that he should have some knowledge of simple calculations, be able to read numerals to a considerable degree, and have some knowledge of simple calculations such as are needed for everyday shopping and counting the change. He must indeed be able to reckon up to the amount which he may reasonably be expected to earn, and to calculate the expenditure of portions of it.

For our children, arithmetical calculations done mentally are far more important than written work. The average working-man rarely calculates more than the measurements essential to his trade and calculations equal to two or three times his earnings. It is exceptional for an unskilled workman to put down on paper the things he is required to calculate; much less necessary is it then for mentally defective persons.

In the preparatory class, we may assume that, as regards number, the mind of the child is a perfect blank, and in any case, if he has done number work at all, it is probable that his ideas of it are hazy and confused. We must therefore begin at the beginning, and give him by means of the various kinds of apparatus of the preparatory class, a definite conception of the basic numbers. There will indeed be no actual number lessons, but this element

will enter into all games and exercises. Everything is concrete, every exercise must introduce and insist on the number of objects. For instance, the persons in any game—one child as leader—two children in the circle, each one has a ribbon, therefore there are two ribbons. Three braids for plaiting may be two blue and one red, or three of one colour. The number of doves in the dovecots, the counting of rides on the rocking-horse. Comparison of horses' feet and children's feet, rooms in doll's-house, etc., and many other things, give scope for the teaching of practical concrete number.

On the whole, children grasp the numbers two or three best, in the earliest stages, by looking from one to the other, in much the same way that a baby does, taking in the one then turning deliberately to the other; but as it becomes easier to him, he can associate the numbers with smaller objects such as he can handle simultaneously, like bricks and blocks, until the stage comes when he can recognize two at a glance, when small balls or large beads confirm his impression. Blocks similar to Tillick's bricks, or the Montessori stair, are useful in proving the addition or subtraction of numbers. For instance, a "two-er" and a "three-er" placed end to end are visually equal to a "five-er."

At the stage when he has a certain working knowledge of numbers up to, say, five, he may begin to learn the figures, always intimately associating them with the actual things counted. According to Binet-Simon scale, a normal child can count four pennies at the age of four. At this age, however, he is still unable to write down the numbers, and does not associate the figures with the numbers. If we reckon that a defective child is two or three years retarded, we may assume that the mentally defective child of six and a half to seven may be expected

to be developed sufficiently to be able to count numbers up to five. The child would, however, do his calculations mentally even when he knows the numbers. Of all the counting and arithmetic apparatus generously supplied to many of our schools, none is so perfect as that supplied by Nature in our fingers. They are always at hand for reference, constant in number and that number the most useful of all. The fingers may be used for visual work, each hand being laid flat on the desk and counted with the other hand. For addition children can be accustomed to adding on from the little finger of the right hand, recognizing the first number to be added, and counting on the second. For subtraction, which is really a contrary and negative process, the child could begin from the left-hand little finger and count off from the left the required number; or for more advanced children, the number to be subtracted could be counted off backwards to the given point.

It is usually found that the building-up process is easiest for defectives, so that they will learn addition and multiplication more rapidly than subtraction. In that case these should be learnt thoroughly first, and when the child has a good comprehension of numbers within a certain range, say 1–50, subtraction can be based in a complementary way on multiplication.

There are a few who are really good at subtraction long before they understand addition or any building-up process; their understanding of number can be trained through subtraction, and, later on, addition can be based on complementary subtraction.

Perhaps one of the most useful and practical pieces of apparatus, and one which admits of considerable scope, is a number ladder. This ladder is made of a strip, some three inches wide, of firm American cloth, or better still,

stout black lino. On this are painted in white figures large enough to be seen right across the classroom, the numbers beginning at one and mounting upwards towards the ceiling. If this ladder stands upright it gives an idea of height, and in some measure induces that curious indescribable picture of numbers which most of us have, so different to the sort of picture presented by time which appears to stretch out far in front of us rather than to rise upwards. However that may be, the number ladder is an eminently useful one. Each week or so another number or a few more may be added to those already known.

If such a ladder is fixed more or less permanently in a classroom, it is a constant source of instruction; the children see it, can follow up the numbers as far as they can count, and teach themselves and each other thereby. For adding it is excellent; the child recognizes the first of given numbers and counts on the other figures, absorbing the idea of the super-imposition of one number on another. The same theory applies in subtraction; the child recognizes the greater number and counts off the one to be subtracted from the top, leaving the required answer. For children who are at the stage of working mentally numbers ranging from 10 to 20, there is much scope for ample practice of an interesting nature, and the ladder may also be applied to written work sometimes. For multiplication tables, and early exercises in multiplication, it can also be used with advantage. For instance, in taking the 3 times table the ladder may be divided by chalk lines into groups of 3, and the table is readily grasped. The children can then make up and write down their own table from counting the answer to group of threes. For high grade children the early stages of division can be taught in somewhat similar way, and the remainders are easily shown.

All children should be able to recognize numbers and know whereabouts to find them, for street numbers and book pages and dates will continually need to be found. The ladder is useful for that, particularly when the numbers on the ladder reach 50 or 60. Then the odd and even numbers may be differentiated by colour. To find their own " house number," or that of anyone else, can be made into a game; while a moment or two spent in finding different pages in a reading book soon accelerates the rate and intelligent manner of recognizing numbers.

For speed in the finding of numbers old calendars are useful, for they are easily procured, and the numbers usually clear and obvious. In this connection the calendars may be used for postman's game. They can be cut up, and each child has a house number; one child controls the post-office and gives out letters; a postman and telegraph-boy are sent out with communications for a certain house—the letter is a slip of paper with the same number on it. The one who delivers his letter first is the winner, and he chooses a partner to go to the post-office with, the loser taking the vacated seat and number. For this game the children can sit in two long rows on the floor or on benches, the odd numbers on one side and the even numbers on the other.

Another useful piece of apparatus (Larbert) consists of a flat wooden stand, about $3'' \times 8''$, on to which are glued five pegs, each about as thick as a skewer, and about $6''$ high. Large wooden beads are used with this, for numbers up to 5, and then for multiples of 5. It is specially useful, for it gives children something to do; besides, they can see the numbers clearly, and there is not much difficulty in keeping the beads from rolling and dropping.

From the preparatory class the teaching of number

becomes wider and more varied. Many exercises in making numbers up from 10 to 20 should be given, adding, subtracting, dividing out, until the child is familiar with these numbers and their factors. Generally speaking, it is best to keep to one definite kind of apparatus, and not dissipate the child's energy, by requiring him to readjust himself continually to different kinds of apparatus. For instance, if a child seems to take to Tillick's bricks, he will probably find it easy to adapt them to his arithmetical calculations. To revert to figures bearing a given number of dots is to muddle the two conceptions. Similarly, if in the earlier stages a child has been accustomed to the 5 picture as the "face" picture, it will be difficult for him to adapt his ideas to the figure 5 with the five dots. This applies chiefly to that difficult transition stage from objects with numerical appendix to numerical indices accompanied by objects; in the first stages the importance of the object is paramount, in the later, it is the number.

A great deal can be learnt in a practical way by actually touching and handling numbers of things. Without doubt the most practical exercises are those involving small shopping problems, and ample work in this department develops the reality of number as much as anything. The difficulty of "shopping" lies in the fact that it can occupy so few children at a time; however, if it is taken with a small group of not more than four, while the remainder of the class is engaged in busy work, the maximum benefit will be gained from a lesson of only ten minutes' duration. In a small group, such as this, a few coins of real money might be used, and this in itself is a decided stimulus to children's interest and a lesson in itself. The teacher must, however, keep an alert outlook and prevent the possibility of temptation. Such lessons should be

taken very frequently with all groups, and in fact during every number lesson.

As a transition from mental to written work, one of the most useful pieces of apparatus known is the peg-board. This is a flat piece of wood eleven inches square. It is ruled in inch squares and at each intersection there is a small hole, of a size to receive an ordinary bamboo bead. There are a hundred holes in all, ten in each of ten rows. So that one row is a known number 10. An earlier board may be used with five rows of five holes ; but probably this board is better kept for tens. Each child should have a peg-board of his own and a small box of coloured bamboos ; only a few need be given to him at first, and gradually increased as he becomes familiar with higher numbers. The pegs may be of different colours and different sizes—two and three inches long. For the earliest exercises small numbers may be pegged, such as three red, three blue, or four long and four short, until the board is filled. It is well for the child always to begin pegging from the right-hand side at the bottom, and to work from the bottom to the top of each line, and from right-hand side to left.

The child can count out and fill in various numbers, 17, then 19, then 14. At first the whole number of pegs will probably be taken out, and all counted into the holes again ; later, the child will retain the 10 (one row) and count in the units each time. On further exercises he will add or subtract required number from the board almost without counting. It is not advisable to divide the lines into tens and units, but rather to let the child realize the value of one full line of single digits making ten. During the whole period when these exercises are being learnt, they must always be in conjunction with the written numbers. For instance, " Put out seventeen pegs " must

be accompanied by the child's inscription of the number 17 in his book. Then when a simple addition sum is given, each number can be pegged out separately and the realization of the total gained by regrouping the pegs along to fill in the lines. This is a most valuable aid to the child for setting down his addition sums, for he sees the tens and units at a glance.

This is a small, simple, and most useful bit of apparatus, which in the hands of a skilled teacher may be adapted to many uses. The advantage of seeing the whole number at once is obvious, and the self-corrective tendency is helpful. Moreover, this makes interesting and absorbing lessons for children at various stages, while the teacher is occupied with another division.

The application of the peg-board to the understanding and learning of tables is excellent, and too obvious to require more than notice. It contains many possibilities also of finding out and proving sums.

A great deal of practice is necessary to ensure facility in dealing with small numbers. When the shopping problems are going well, such games as tramway conductors, booking-office clerks, and post-office work give scope for simple calculations. In many of these it would be useful if children could put down the sum to be worked. To be able to find the answer to a certain sum in one's head, and then to find that one is not quite sure how a more difficult variation of the same figure should be worked, is a common occurrence. If that is so with people of normal intelligence, much more is this true of the defective. These children find difficulty in laboriously writing out many of the sums they have to do in their books. I have found it a valuable and workable plan if children are given a little rough note-book or rough bit of paper and are taught how to jot down the figures

required in their calculations. A little training and help will enable him to discriminate between the essentials and the non-essentials, for the work in note-book might be optional, and the answers of course oral. Then the correlation between oral and written work would be much stronger, and written work generally would be better understood. Unfortunately, there is frequently a distinct gap between written and mental arithmetic, whereas the one is really the complement of the other.

*Written Work.*—Written work is recommended mainly to afford the child opportunity of calculating numbers at his own rate. In this way his speed and accuracy increases with the practice, and he is not discouraged by other children being ready with their answers sooner than he, as may be the case when class mental arithmetic is being done.

Written arithmetic, as a class lesson, should be rarely given, rather let the bulk of the work be mental, while the written work should be done only by one group, while others are busy. By the introduction of many devices for " busy work," the need for written arithmetic will be reduced to a minimum.

In written work it is essential that the child should have the machinery of a rule in good working order before beginning to do problems, otherwise he will be able to do an easy sum, but not a similar one of increased difficulty. The defective child is so poor and uncertain at generalization that he has difficulty in adapting a problem even to a known rule. However, one must strongly combat any automatism, and grade sums in steady, careful steps.

Another matter which needs special emphasis in written work is the necessity for practice in all the elements of a piece of work before combining them in a sum. For example : to subtract 49 from 57, the analysis of these

numbers needs explanation and careful understanding, as, for instance, 57 equals 50 plus 7, or 5 tens plus 7, or 4 tens plus 17, or 40 plus 17. By the use of the peg-board or Tillick's bricks this analysis of number presents little difficulty, but aids facility in manipulating numbers.

Of the many methods of teaching subtraction, probably this is the least complicated, and therefore the most easily learnt by defectives. The grounding they will have had in subtracting units from numbers in the teens, stands them in very good stead. The children who reach the stage of learning subtraction with "borrowing" have had plenty of training in such calculations; they understand the reality of the tens and should find no difficulty in putting down 57 as 40 and 17, then there are no further conditions to remember.

The teaching of multiplication is simple, and follows best immediately after addition when the multiplication tables are well known. A good plan is to give a child addition sums of several times the same number, say, 13+13+13. He will laboriously add up each line in the first few exercises, when suddenly will come the realization that it is quicker to say three times three. When he understands this, the former method of setting down may be shown as a quick way of adding up similar numbers.

It was formerly contended that a truly mentally defective person could not comprehend the process of division, and undoubtedly it is an arduous task even for the higher grade ones to understand the principle. Probably this is due to the difficulty there is in connecting up the concrete apparatus for explanation with the mental picture. The mechanical working-out of sums by means of the multiplication tables may be useful enough, but I think it cannot be done intelligently unless the numbers are small enough to admit of ocular demonstration.

The understanding of a few commonly used fractions is indispensable. These are easily explained by means of simple diagrams, and various geometric figures drawn on the blackboard and divided into parts; the children will draw or cut the same, and will have a fair idea of proportion. The fractions must be written beside each section and can be explained as a thing cut up into two pieces and one piece taken. One-third, one-fourth, one-eighth, etc., may be learnt first, then two-thirds, three-quarters, may be explained as a thing cut up into equal pieces and a certain number of parts taken. These simple fractions will be learnt during the period in which paper and cardboard modelling is being begun, and the children will realize their need for knowledge of fractional parts.

In looking over a number of sum books, it appears to me almost equally bad to find all the sums right as it would be to find them all wrong. In the first place, if the sums are invariably correct (unless the child is unusually quick and alert in mind, and normal) it is proof that they are probably too easy for him and he needs to advance. This is apt to occur when the whole class is doing the same work, and one more advanced child is forced to mark time for the sake of the others; this should be avoided by forming little groups of children who are slightly above or below their neighbours.

In the second place, where all sums are consistently wrong, a greater wrong still is being done to the child. He is being cruelly discouraged to begin with, he lags considerably behind the class, and he is becoming more and more muddled. The more often his sums are wrong, the worse he becomes in every way.

In testing mentally defective children, this mental confusion with regard to numbers is a striking feature. It is present in oral work in some degree, but owing to the

comparative infrequency of the child's answers in class questioning, is not so striking. In his written work, he seems to seize on the only possible plan he can for getting figures down.

On finding in a child's exercise-book the sums are all entirely incorrect, it may be worth while to go carefully over each sum and examine them to find out the plan on which the child has worked. Many a time it is found, in addition, that he has added both columns together, or that he adds up tens figures first and carries tens figures back to units; or that he subtracts top lines from bottom, or has other such tricks. I think the best way to deal with such a confusion is to let the child drop that particular kind of work for a considerable period, three or four months, until he has absolutely forgotten it. In the interval, let him be busy with quite a different kind of work, preparing by easy stages to attack the "muddle" from another standpoint. When approached again, the habit of correct work must be carefully guarded and fostered until it has become fixed.

It is unlikely that our mentally defective children will ever do more than the first four rules in elementary examples and a few stages of money sums. Few will do, or need to do, division sums, except mentally or with concrete, but plenty of money problems to about two and sixpence are good exercises for future needs.

*Books.*—In discussing written work, it might be borne in mind that small exercise-books are by far the most suitable for defective children. It is most advisable that they should use books rather than paper, but the thickness and the large size of the pages of books used in ordinary elementary schools is most disheartening to a child, while the glow of excitement and pleasure in beginning a new book bids fair to tide the child over difficulties for some

distance. Moreover, as soon as the book or exercise begins to be boring, and the keenness fails, the end should be within sight to buoy up the child and train him to put forth effort towards an end. Probably the best size would be such that it could ordinarily be finished in one term, and yet not so small that it would involve a great deal of waste at the foot of each page. A book of twelve or sixteen pages and about eight and a half by six inches in size is a favourite size. Sheets of paper should only be used for monthly or terminal examinations, for progress can be estimated best by looking through the books. These small books save the wastage of paper when a child leaves, for the odd few pages can be used for notes. It is an unkind and short-sighted economy which gives the old book of a child who has left, to another scholar. The children dislike this second-hand book as intensely as they love the smooth, clean surface of a new one.

*Weights and Measures.*—Weighing can be taken with great advantage with small groups. Such things as sand, gravel, chalk, and nuts are suitable for weighing in the early stages, for they can be brought up to a definite weight with fair exactitude, so that the principle of equality and balance can be imbued. One pound and various pound weights should be thoroughly known first, but the ounces are, as a rule, too fine to use.

When plenty of practice has been given in bringing things up to a given weight, the converse and much more difficult process of finding weights to balance a certain object may be tried. This requires more foresight and judgment than the first process ; when the specified object is known to be of a definite weight, as in weighing a pound packet of tea, or a leaden ball of a known specific gravity, the child has not an impossibly difficult task before him ; but when he is given such things as a book, bundle of

indiarubbers, etc., the difficulty is discouraging. The difficulty of this last exercise can readily be gauged by giving a normal Standard V or Standard VI boy a bundle of letters to weigh by himself, and in asking him just to write down on each envelope the number of ounces in the package.

Measuring of fluids is a direct continuation of the sense-training work of the preparatory class. Then the measuring needed, actually, only the exact repletion of one mug twice in order to fill another mug of double the size, and so on. Now, the child learns that four gill mugs filled make one pint, that it takes eight pints to fill up one of the big gallon pots, and that, failing a pint pot, two half-pints may be utilized, etc. He thereby learns multiplication tables, with their application, and uses his judgment and foresight to a unique degree. Water can also be weighed, and the correlation between weight and capacity can be arrived at roughly.

Although weighing, measurement of liquids, and shopping are for the most part, and for the best part, individual work on account of apparatus, such things as measurement of surfaces, etc., can be considered as suitable for class-work, for each child can have its own apparatus and measure its own individual object. Clear, plain rulers, with only inches marked or half and quarter inches as the case requires, can easily be made by the children themselves in white cardboard with strong dark lines and figures, or if the children have not reached that stage, the class in cardboard modelling or strip woodwork could make them. It is best to begin measuring with rulers bearing only the inch marks. The children will first have practice in drawing lines of various given lengths, and in measuring off bits of string or paper of a given length. Gradually the chief fractions of an inch will be introduced

and practised till thoroughly known; when these are mastered the reverse process will be undertaken, namely, to find out the length of given articles: books, pencils, width of desks, length of fingers, width of various boxes, pictures, blackboard, door-panels, the children's own heights, etc., etc. When the larger measurements of feet and yards are introduced, the playground offers scope for endless measurements of this kind. Staves of the fence, windows, doors and gates, flower borders, all offer opportunities to the enterprising and resourceful. Such work as this is better learned and understood if the children are given freedom of discussion over it.

From the actual measurement comes its offshoot—estimating—with its encouragement of independence, and necessity for thoughtful observation. This is another subject better taken with a small group, otherwise a number of children will have nothing to do but watch.

In estimating, a child looks narrowly at a specified object, say the lower edge of a picture hanging at some distance from him; he then takes a piece of string and holds it up stretching between his two hands what he estimates to be the width of the picture; a second child might also examine the picture and could draw the width of it on a blackboard. More advanced children can dispense with string and chalk, and can look at picture, then at yard-stick, and read out what he considers to be the measurement. All kinds of measurements can be estimated and the estimate proved, the children becoming quite expert at this work, while they get into the way of thinking definitely and judging for themselves. The measurement of their own heights is of special interest to children, and the difference between children can form the subject of number problems. The measurements themselves can be used to supply the information required in Progress Books.

It has been taken for granted rather in the foregoing pages that children will do a good deal of individual work if they are to gain the highest benefit from their instruction. This is inevitable, and most fortunately so, for there is no better way of ensuring a child's progress than to deal with him as an individual. It is, however, exceedingly difficult to organize a class in this way, and is apt to lead to some waste of time. Perhaps a series of little divisions may be more practicable, and these have the advantage of allowing a little competitive spirit among the similar children of a division. A word of warning would perhaps be advantageous here. It is never wise to "begin the group system," for chaos will certainly result. If the whole class is precisely on a level, it is unnecessary to divide up, for each lesson will do for all. But nearly always two or three children will stand out from among the rest as above the average; these must be supplied with lessons, exercises, and busy-work suited to their capacities. They will gradually become accustomed to this, and will work well independently. Then again, the lowest stratum will be the most striking, and these must be supplied with work. Gradually it may be necessary in one subject or another to form little groups, but this must be quite gradually, and only decided upon when it is obvious that a section of the class is not gaining the greatest advantage from the lesson.

*Number Games.*—Considering the lethargic or scatter-brain attitude of defective children, games of various kinds requiring mental energy and alertness are doubly valuable. Many of the ordinary children's games may be adapted and used, but it is of the utmost importance that each game should be part of a definite scheme. For this reason it is as well for the teacher to keep some kind of record of the games most suitable to different stages. Here is a rough outline of stages.

*For Counting.*—Bouncing a ball or balloon and counting, skipping and counting, marching and counting steps, on rocking-horse or swing and counting. Clock, children stand in a ring, the space in the centre is Home. Children number off to about one-third of their number, then begin again at one. If twenty-four children, they will count round to eight three times. When a number is called out by the teacher, the whole class claps the number, then the moment the said number is reached, all the children bearing that number, usually three, make a run for Home. The winner calls out the next number.

*For Addition.*—The counting devices can also be used for adding exercises.

Throwing bean-bags into a basket, each child counts number successfully thrown by members of one side.

Marching given number of steps, counting. Counting when in swing or on rocking-horse; the number reached by each one being added to the rest.

Counting nails hammered into tree-trunk—yesterday's and to-day's nails.

*For Subtraction.*—Ninepins. Play with a certain number, say nine, until that is known, then take eleven or twelve. Child knows how many there are, throws ball or bean-bag to knock some down; counts how many knocked down, and calculates (does not count) remainder.

Nuts in May, counting sides, adding and subtracting winner.

Quoits. Small and easy numbers only to be used. Each peg has a number which, when roped in, will be added to the score. One square (or more according to requirements) will be a minus peg, and the roping of it means the subtraction of that number from the score.

Shuffle-board may be played in the same way. Each square or peg may mean also a sum of money, but the

numbers must be kept low, as this is really a transition from mental to written work.

Shuffle-board, varied to suit circumstances, is a favourite. An oblong space is marked out on the ground, and divided into squares; each square is a number, but some of the squares are minus-numbers. The game is played with ten flat discs of wood five inches in diameter, and a broomstick with a concave end to take the curve of the disc. The children take sides, and a scorer is chosen for each side, also a fag to fetch the discs. The numbers gained by each side are added, while the minus numbers are subtracted, giving the full force of the meaning of subtraction.

For multiplication and division, all kinds of variations on bean-bags may be used. Each bag may represent a number, and this is multiplied by the number of bags any child could throw successfully into a basket. Sides will be taken, numbers all written on the blackboard, and totals, differences, and averages worked out.

Quoits can be similarly used, each ring representing a number; so, if each ring meant 5, and it hung on peg 3, the number gained would be $3 \times 5$.

A useful game for both multiplication and division, and one which admits of ample modification, has come to us from America. An oblong is drawn on the blackboard and divided into eight small squares, each containing a number. The children pick up sides, two are chosen for scorers and two for fags to pick up the balls and to damp them. Each child in turn throws a wet ball at the diagram on the board, and the number which he hits is scored. When all have had a turn, each one finds the total before the answer is written down. Then, for multiplication, if the table to be used is the five times table, a large 5 is written at the top of the board; then if a child hit

square 6, he calls out : " Five sixes are thirty," and he scores thirty. Similar games are with division. If the six times table is being revised, the numbers in the squares are 36, 42, 48, etc., and a large 6 is written at the top ; the child who hits 42 calls out : " Six into 42 goes seven times."

1. *Trams.*—Children seated in two rows facing each other, as in a tram. Children take characters : Father, mother, children, two friends, etc. Each one must have a ticket. Some take one, some two, some a child's ticket. At first, only penny and halfpenny tickets will be used, until children are accustomed to them, and the passengers might all tender a sixpenny-piece for change. Later, when expert, the fares and change will be raised step by step. Used tram tickets in any quantity are always procurable, and real money should be used.

2. *Shopping.*—This lesson needs careful and thoughtful preparation if the maximum benefit is to be derived from it. The grocer's shop perhaps offers the best possibilities for reckoning in small numbers, at least for the early stages. This should be fitted up with a number of specimens which can be easily kept : tins of blacking, blue, cocoa-tins, mustard, packets of tea, sugar, coffee, and other groceries which have a distinctive appearance. The little tins do not need to be full, but they have a character of their own easily associated with what they contain.

The shopping game is best played with not more than four children, and as none of the calculations should be beyond the easy working of the group, it should all go briskly. It is better to have facility with all small numbers than to have a groping uncertainty about larger sums.

3. *Tram or Train Tickets.*—Used tram tickets are easily procured, and with care a good collection of train

tickets can be made too. Various collecting games can be played with these. Suppose one asks for one shilling's-worth of tram tickets ; the children can count up the sums on the tickets to make up one shilling. They may try to see how many they can get for the money, or see how few, and later on, when expert at this, may be given such a sum as "Find eight tickets which together will cost a shilling." This needs foresight, but can be done by the brighter children.

It is difficult to suggest even a few lines of procedure in number work, for so much depends on the arrangement and local conditions of a school.

It is, however, of especial importance to bear in mind one or two main propositions :—Each child must be encouraged to do the very best work of which he is capable, and must not be kept back by the class.

The chief aim of number work is to make the child nimble in the manipulation of small numbers and small practical calculations such as he will constantly require in the future, and such as will render him alert and sensible in his dealings with others.

BOOK OF REFERENCE

Dewey & McLelan . . . . "The Psychology of Number."

## CHAPTER VIII

### PHYSICAL TRAINING

PHYSICAL training has come to have a much more comprehensive meaning now than formerly, so we may include under this heading drill, games, balance, breathing, singing and recitation.

The physique of defective children is, generally speaking, considerably poorer than that of the normal child. In the lower grades there is a feebleness of muscular control, a difficulty in obtaining response to sensory impulses, and uncertainty in balance and co-ordination, while even in the higher grades the weakness in balance exercises and horizontal arm movements betrays the incapacity for control which characterizes the defective.

Statistics go to prove also that they are subject to bad teeth as frequently as normal children. They catch all kinds of infectious illness, and are subject to tubercular disease to as high a degree. Moreover, they are frequently badly fed and ill-nourished; oftentimes the parents, themselves subnormal, cannot earn sufficient to feed their offspring, and even if they do, have often insufficient intelligence to cook a sensible and nourishing meal. Now, however, this contingency has been met and overcome in nearly all Special Schools by the provision of the hot mid-day meal for all scholars who can afford to pay the necessary sum (unfortunately there are still many

who cannot afford to pay). The evidences of improvement in physique of those children who can partake are striking. Moreover, the early fruits of medical inspection and treatment are shown by the improved condition of ears and eyes and the removal of other ailments, usually termed "minor," but having great significance to the little sufferer. In spite of this improvement, much still remains to be done in furthering the physical welfare of the defectives, while the greater part of this has to be done in the school, or on the recommendation of the teachers.

The most elementary rules of hygiene have to be taught and impressed; regular and thorough ablutions, sleeping with the bedroom window open, the care of the teeth and hair, regular habits, early hours—these will not be practised at home if they are not learnt at school, and on this foundation rest the elements of good health. Unfortunately it is not a promising task to instruct the home people by the example of a mentally defective child.

Physical training in schools begins in the Preparatory Class with the encouragement of free activity and games, together with a few imitative movements. It consists mainly in spontaneous action on the part of the child, and brings into play the muscles which are exercised by the normal infant. Walking, running, carrying large light articles, opening and shutting cupboards and boxes, following a line, reaching up, as in hanging clothes, writing and drawing on blackboard with large movements—these are all parts of the daily training. A great deal of motor control can be gained in this way just as it is similarly gained by the little normal child of two or three years of age. But the important point ever to be remembered is this, that although our children may only have the intelligence of infants, yet physically they are

considerably further developed. For this reason some drill movements are needed to train such co-ordination as cannot be gained by play. At the same time, the intelligence being so poor, the children are unable to obey commands which are suitable for those of equal physical development. For this reason many of the exercises given will need to be performed by the teacher in front of the class, thus simultaneously giving the opportunity of imitation to those who cannot follow the directions, in order to familiarize the order with the movement. Ready response to the most elementary commands is to be aimed at in order to quicken the dull sleepy brain. Response is the important factor of this stage, and the accuracy of any movement is a secondary matter.

The use of rhythm has great possibilities. Music appeals to our children in a curious inexpressible way, and they seem to be able to follow the beat almost as if they understood it. It takes time to get all children to work together in this way, but by doing so the children can learn from their own effort. One of the early exercises employs simple duple time, where there is a well-marked and a slightly marked beat. The children can do this sitting on their own desks or chairs and can tap one foot or the other on the floor in response to the music; they can swing their legs in the same way, or tap lightly on the desk. It is astonishing how quickly even low-grade children respond to this. Clapping to time is a later step, first to every beat, and later to the marked beat only; marching to time is more difficult as it involves so much co-ordination. Triple time offers more opportunities for exercise, but is more complicated to learn. Clapping to the music, three claps but marking the first, gives a realization of the meaning of the time. Rhythmic movements of the head, arms and legs, give a realization

of the time of a measure, and at the same time the child gets the needed exercise of various muscles. This method can be applied later to the folk dances and fancy steps, so excellent for the defectives. Any one wishing to utilize to any extent such a system would be well advised to study the principles of rhythmic teaching as exemplified in the lessons given to defective children in Liverpool, and also to give attention to the elements of the Eurythmics of Dalcroze.

Walking is such an important part of the child's training that it requires special care and attention. Marching, of course, needs a good deal of practice, but the ordinary walk can be so slovenly, careless, and slouching, that every effort must be made to train children to hold up their heads, lift their feet smartly, and look where they are going. One device for helping this is to let all the children walk from one end of the hall to the other, keeping time to the music; each one may take whatever route he likes, but must always pass on the right of every child he may meet. This plan gives opportunity for making rapid decisions and exercising judgment in choosing any particular road. The difficulty may be increased by placing obstacles in the way—such as a form or a table, round which the streams of passers-by must steer their way.

Another walking or marching exercise consists simply in keeping time with the music, which may be varied by playing a quick or slow march, running step, specific time for hopping, another for marching with knee-raising and soft music for marching with heel-raising. This can, of course, be varied in difficulty according to the intelligence of the children.

The general scheme for drill is, of course, laid down by the Board of Education, but it may be modified to the needs of our children. As they get older, and, it is to be

hoped, more intelligent and responsive, they will become better able to follow the commands given them in formal drill. Being however singularly prone to avoid mental work wherever possible, they will imitate a movement easily and beautifully although ignorant of the command which had been given.

In order to facilitate alertness and vigour, country dances are admirable, and should be regularly taught. The training during the learning process is excellent, bringing into play motor memory and appreciation of rhythm while they offer at the same time good physical exercise. When learnt the recall of the parts of the dance is valuable memory training. The children as a rule thoroughly enjoy the dancing; they have a deep pleasure in the joy of movement and are fascinated by the bright happy music of the accompaniment.

*Games.*—Some singing games can be well used, but, as a rule, the physical strength of our children is too poor to allow of the double effort; while they are mentally unfit for the task of remembering words and movements without an exertion too great to admit of full enjoyment.

Ball games offer a wide field for good exercise. Throwing and catching quicken the slow wits, and make children keen and alert. Séguin recommended pelting a phlegmatic child with soft balls in order to compel him to defend himself. Our children, fortunately, do not need quite such drastic measures to rouse them, but they do indeed move more sharply when they notice the approach of a ball. Class games can be played, such as throwing in a circle, throwing across from one line to another, throwing backwards over the head to the next child behind, or throwing across a wide circle while one child in the middle tries to seize the ball. Throwing a ball against a wall and calling out the name of the one to

whom it is delegated is an old game with many uses. Bean-bags (made by children out of strong calico and loosely filled with beans) are easier for the less expert children, for they are more easily grasped and cannot bounce or roll too far away.

Rounders, cricket, football, baseball, and modified net-ball are excellent and should be taught just as systematically as any class lesson, particularly on the moral side. To be sportsmanlike, unselfish and honourable is a difficult matter for our boys and girls, while they have little opportunity of learning this. Several ball games and dances suitable for Special Schools may be found in " Recreative Games " (see p. 160).

As far as possible all drill movements and games should be carried on in the open air. This principle is one which is generally accepted and believed, but there are few theories which are more constantly violated than this. Every possible excuse is made to avoid the playground, although some offer fine opportunities for healthy exercise.

## Recitation

From the earliest months of life children love rhythm ; babies enjoy the motion of their mother's arms or the rocking of the cradle, and evince an especial pleasure in the jingle of music, rhymes and couplets. Stories told in rhyme were enjoyed in the early history of races in the form of ballads and minstrelsy. So, according to the atavastic theory it is only to be expected that poetry and music in marked time will appeal to the children of the later generation. Especially is this to be noticed in the mentally defectives, who, retarded as their development is, approximate in some particulars past stages of civilization. This special interest must be utilized, as should

every other interest; as a rule, with young children these are good, and form a foundation ready to hand for the teacher to utilize and develop further.

Plenty of little couplets and short suitable nursery rhymes will be taught as articulation exercises, and these will form a good basis for later poems. Certainly in all the early stages, and as a rule even with classes of high-grade defectives, the poems learnt should be quite short. With classes constantly changing and new-comers entering the class, short poems are most expedient. There are many little gems of English, in one or two verses of four lines each, which should be treasured up for suitable occasions. It is of paramount importance that the poetry learnt should be really good, and the children's taste needs to be formed on good lines. There is neither time nor opportunity for learning any modern catchy things which will be forgotten in a few months and never heard of again. Sometimes we are told that a poor thing is learnt because the children like it; but surely it is the task of the educator to train the taste so that the children will love the beautiful and graceful tones of really good poetry. Then, again, it is such a joy to a child to recognize under other circumstances the song or poem that he learnt in school, that good and well-known words should be especially sought after.

What is best should be learnt in every school, and what is mediocre in none, for our English language is rich in good poetry. Even when the poem is too long for the whole of it to be learnt, extracts can be used.

Nature poetry is frequently charming and suitable, and many short examples can be found, but must be such as can be understood by the children. To some children the mention of fields, grass, and the song of birds conveys so little meaning that they might be the figment of wild

imagination. Snow, for instance, and snow flakes are all too frequently associated only with the wet slush of city streets, while "a field" recalls little more than a vague idea of a city park, or waste ground in the slums. Most of the work in Special Schools is coloured by the fact that they are almost invariably situated in cities, and moreover, in the poorest slum districts of those cities. This fact has to be borne in mind more especially in consideration of poetry, song, and nature study, but efforts should be made to introduce such nature ideas as are possible especially in poetry. When once learnt, the poetry should not be allowed to be forgotten. If a number of short poems are learnt they can be revised by repetition of a few from time to time; the best advantage is not taken of the opportunity if poetry is learnt only for an occasion or season, and is then gradually relegated to oblivion. It is a most important exercise for defectives to recall recitations; even if it is a matter of revising certain things over and over again, each repetition deepens the impression and trains the memory.

As to the way of teaching poetry, opinion differs. It is probably necessary as a general rule to have some simultaneous repetition, just to make sure that each piece is thoroughly known. But nothing is less educational than the learning of poems by repeating them, line by line, with little idea of the sense of each line.

One of the best ways to teach poetry to a class is one which is now occasionally employed with normal children, and can be used to advantage with high-grade mentally defectives. From time to time the teacher reads pretty and suitable pieces of poetry to the children, frequently reading any pieces that are asked for, until children become accustomed to the sound, and understand the theme of each. They will hear the correct enunciation, and the

careful phrasing and intonation, and begin to have some appreciation of the literary beauty of the poem. Then some day, when the question of a new piece to be learnt is raised, the children will clamour for one of their favourites, and having frequently heard it before, will require none of the formal introduction to it which is apt to be tedious. As the teacher reads it aloud the children will often chime in with the bits they can remember, and in this way will really exercise their memories, trying hard to fill in words. With simple pieces, the eagerness of the children to follow and learn will obviate the necessity for simultaneous repetition, and it will be found that they will need to repeat few of the lines out loud. This is a method which appeals to higher-grade children who hate the dull monotony of constant repetition, and who feel with this method, that they are doing something quite on their own initiative. There is an additional advantage in this method in that the children have some literary knowledge of a number of fine pieces.

Another means of inducing direct effort towards the accomplishment of a task is the combination of reading lesson and poetry. There are sometimes suitable little poems which can be learnt in the children's reading books, or a few verses may be printed on a large sheet. The teacher then reads the piece several times, using correct expressions, and at the same time pointing to each word or line as it is read. Then each child can read it through from the printing. If he does not quite know the words by sight his aural memory will help him to remember the sounds, and if the visual memory is strong he will read the words and memorize the lines. Probably the curious feeling known as "the bump of locality" helps the child to remember his poetry more than we often realize, for the memory of the place on the page or

position in the line is frequently a prop to even normal individuals.

The reverse process can be used as an aid to reading. A well-known poem may be printed (it must be printed in small letters, not script) on sheets of cardboard ; the cardboard is cut up into lines, and the lines into short phrases or even single words. The strips are all mixed up and the child is required to piece them together in consecutive order to form the whole verse or poem as in individual word building. This is a useful plan for revision, provided that the child is not going to be deterred by any aversion to reading. Above all, let the poetry be a pleasure, a joy, and a memory of really beautiful thoughts. He may forget the words, but the vague ideals infused by these poetic impressions will last and often influence the whole future of the child.

## Singing

Much that has been said of recitation applies equally to singing. The songs should be short, the words simple and good, and all songs should be kept up by occasional revision. Good music, too, should be used in all classes, from the preparatory to the top of the school.

The taste of many children is vitiated by the catchy airs of rag-time and the unmusical bawl of cheap gramophone records. These attractions must be counterbalanced by developing an appreciation of the rhythm of good music, accurately and well played. It need not be strictly classical music, but such airs as have survived through a generation by virtue of their beauty, and which rouse the admiration of every artist in sound to this day. Our beautiful British national songs offer a vast variety, from the gentle lullaby to the vigorous sea-song.

This training has to be gradual—one short piece at

first, just as introduction, and later one or two longer airs will be appreciated. I have seen four hundred mentally defective boys and girls sit spellbound listening to music played by a young blind girl. In that curious indefinable way, in which music penetrates the very souls of men, deep inexpressible feelings are stirred even in low-grade defectives. That "uncertain longing, vague unrest," which is seen on the faces of the older ones in moments like these has surely some significance. May it not be that some power has pierced the cloud of intellectual haze and has permitted a vision of the Great Good, clearer than earthly explanation could give? Let us then utilize the beauty and the tenderness of music. We need not speak of it, lest some clumsy earthly word might blur the vision. But rather let us give scope for the fulfilment of the impulse to go and do good, which embodies the vision.

In taking new songs, let the children have their choice as often as possible. This is nearly always practicable, for the teacher would not familiarize the children with anything which he did not consider suitable, and in the case of a difficult piece, the strong desire to learn it will carry the class through to a successful consummation.

Folk-songs and national songs have during the last few years become increasingly popular, and their value is being appreciated. There are certain old songs which should be known to every child in the land, and it is disappointing not to hear them in every school. As one means of development they are as necessary to the child as the elements of reading or number. Many people take more pleasure in a concert if they hear things that are known to them, or appreciate the little bit of repeated music given as an encore more than the original. I believe the slow mentally defective prefers to hear a piece that he knows slightly, and in later years on hearing a

favourite air, the realization that he has learnt something which belongs to a wider sphere than the school, will be a source of personal pleasure to the child.

In song it is pleasant to hear sweet voices, but although a good deal of attention is given to voice exercises, it is important above all that the children be made to realize the value of light and shade in their songs. Most classes can sing a whole song throughout in a soft even voice, but it takes a really intelligent appreciation to vary the tone according to the needs of the words. It rouses the children and keeps them alert, if they know that a change is needed in any particular verse, and they enjoy the sudden break, shout, or whisper with a keen emulation. We want our children to be on the alert for a change in expression, time, or speed, and to realize that this change is due to the meaning of the words. It is, undoubtedly, a difficult task to prevent just one laggard forgetting, but it is a triumph to achieve.

In the selection of a song, then, it is necessary to consider whether (*a*) it is suitable in pitch; in mixed classes it is sometimes overlooked that the boys can take without a strain notes which, being beyond the compass of the girls, ought not to be attempted by them, although they will be eager to do so if allowed; (*b*) the words are such as will be well within the comprehension and remembrance of the children; (*c*) the music is good and likely to last.

During the last decade several good collections of songs have been published, but it is necessary to choose those in which the accompaniment is simple but effective and helpful. It is impossible to find all the songs one might want in any one book, or even all the poems in one volume, so the wise teacher will keep a list of references to the books in which he may find certain pieces when wanted. He will also keep a copy of all the poetry which has been learnt,

so that it will be at hand for revision or reading at any time. Unfortunately it is rather difficult to do this with music, so that many books have to be kept ; it should be considered, therefore, before the lesson which music will be needed, and the places found and marked. More naughtiness has had its inception in the waiting moments than in any other time. How uninteresting the interval at a concert would be, if we had not a neighbour with whom to converse ! The minute or half-minute during which the teacher is absorbed in finding the place is a long time to the impatient waiting child, who may not be allowed to pass the time in conversation with his neighbour.

Breathing and voice exercises will be given at the beginning of each singing lesson, but the time allotted to these must be proportionate to the length of the lesson and they should be pretty and interesting ones, the first few on the descending scale, and each one should have a definite purpose. Breathing is often helped by whistling either a short scale or part of a song. Boys love to whistle, and feel it is their prerogative, while the girls can claim humming as theirs. Care must be taken only to whistle or hum tunes that are suitable for such a rendering.

The precision needed for each individual note that is emitted as in whistling, renders it of exceptional value when testing the accuracy with which the tune has been learnt.

As a rule, mentally defectives must learn their songs by ear, either from piano, violin, or by imitation of the voice of the teacher. And in passing, why is it that the violin is so little used in our schools ? Many a teacher can play it well and belongs to a choir or orchestra. No instrument is more suitable for folk-songs or folk-dances. This opens up a delightful vista of possibilities. With the help of the violin these could be taken outside in

playground or park much more satisfactorily than indoors with a piano or out-of-doors when the removal of the piano is impossible. In many country schools on the continent the only musical instrument provided is a violin, and this has proved to be successful, both for accompaniments, teaching singing, and for dancing.

As a rule, the Tonic Sol-fa is beyond the power of the defectives, but some use may be made of the staff notation using the Tonic Sol-fa syllables. For instance, with the five lines drawn on the blackboard the scale of D major and G major can be sung to the syllables. When the spaces and lines are associated with certain sounds, a whole song can be written on the staff and will be sung without much difficulty. Perhaps this is not of great value, as it is unlikely that the children will use it further, but it gives scope for training in pitch and trains children to appreciate shades of difference in tone. It seems easier for our children to follow high and low notes visually expressed on the staff than to interpret the tonic syllables.

We want the children to love both poetry and singing dearly. It is infinitely more necessary that they shall delight in it, than that they shall sing perfectly. Correction is often necessary, but prevention is better. A few words of suggestion, an accent of encouragement, and then a good vigorous start may be made; but it is aggravating, disheartening, deadening to be pulled up in the middle of the first verse for not having made a good start. Equally disastrous is it to be scolded at the end for certain omissions or commissions. Each time that a song is sung incorrectly it makes it more difficult in future to sing it correctly; whereas, each time the reminder is given beforehand, it makes the effort easier and lessens the memory of the incorrect rendering. Let the correction be constructive, reminding the class of some previous occasion on which

a certain pronunciation or tone was particularly good; negative suggestion is easily given in singing, and may lead to disappointment and also to sulks or temper, for there are usually some children in the class who have really tried their level best, and it is discouraging for them to be undeservedly classed with the careless ones in having to repeat the piece.

The possibilities of song in rousing love have been proved for generations. Almost without explanation, almost without the words, mentally defective children become imbued with the love of the things of which they sing: school, country, King, and God. The impressionable nature of our children leads them to this keen affection, respect and admiration for higher things. The glow of enthusiasm after some particularly inspiriting song is a cause for heart-felt satisfaction to the teacher.

So from good physical training in its threefold aspect, our children gain much æsthetic enjoyment and real physical advantage—the joy of motion, of spontaneous activity, the satisfaction of having the bodies under control.

From their singing and poetry are engendered those sensitive emotional feelings which may be so beautiful or so base. If the deep feelings have always some good outcome, the goodness will be strengthened, and the evil possibilities eradicated. While at the same time the greater the control which can be gained by each child over his body, the stronger will be the power to help him to control his thoughts and feelings.

BOOKS OF REFERENCE


G. McMillan . . . "Swedish Recreative Exercises."
Kimmins . . . . "Guild of Play Books," I. and II.
Stanford . . . . "National Song Book."
Cecil Sharp . . . "Folk Song Book."
Stevenson . . . . "Child's Garden of Verse."
"Golden Staircase," Books I., II., and III.

# CHAPTER IX

## JUNIOR MANUAL TRAINING

One of the accepted differences between ordinary elementary and special schools lies in the fact that, in the latter more time is given each week to manual training. But the real difference in practice is that, whereas in ordinary elementary schools a course of training in various branches is given, in special schools a scheme of manual training is in vogue which begins in the preparatory class, and develops step by step right through into the higher classes, and the most important fact of all is that each piece of handiwork done has a very definite place in this scheme, based on some work which precedes it, and is thoroughly learnt in order to ensure a certain foundation for that which follows. Graduation is the happy mean between variation and stagnation. Although I feel that it is essential that each child should work up through a graded course, this does most emphatically not imply that all children should be making the same model at the same time, nor that each child should be obliged to work through each model of a series. Some will work more rapidly, and get through more; some will learn more from each model and therefore not need to make all; but whatever it is it should belong to the series of a particular child.

In junior manual training no exercise may be purposeless; the time is too short, and the importance of the

training too great, to allow any exercise to be done merely as a change or variation. It must be firmly borne in mind that manual work trains the brain only in so far as the brain is used—mechanical routine work done without any thought loses a great deal of its value. It must utilize the maximum amount of consciousness. A preliminary training in gaining perceptions is given in the preparatory class, as a vital foundation for all future work, including handwork. The normal child with its keen little mind is unconsciously open to new perceptions from every side, takes them in eagerly and wants more!

It is this lack of what has already been mentioned as "mental aggressiveness" which characterizes the defective child, and it is on account of this that means have to be taken to quicken this dullness before building upon any weak uncertain knowledge.

The first steps in early manual training are constructive, consisting mainly of expression work, based on concepts formed during preliminary training. Most of the junior or pre-vocational handwork in Special Schools resembles in some degree that done in Infants' Schools, but it must be remembered that whereas infants' work is usually done by tiny children below seven, much of our junior handwork is done by children between the ages of seven and twelve years. I do not propose in one short chapter to deal at any length with handwork, but merely to indicate the kinds which I have used myself and seen used with success, making special reference to the place of such handwork in the special school scheme.

The names of a few good books on handwork are appended, which might be used in special schools. The general education given in the sense training lessons, makes a valuable foundation for all handwork, since the eye has been taught to notice, and the hand to control its

movements. So we would make sense training the first essential basis for handwork.

It is sometimes a debatable point whether a child of nine or ten, when entering a Special School for the first time, should go through the whole of this preliminary training. A child not clever with his hands might be fairly intelligent, and might feel this derogatory to his dignity; in such a case other training might be adopted from which he could gain equivalent instruction. But a very slow dull child would not realize that the work was childish, and he would probably gain through experience, and would learn the foundation thoroughly and systematically, even though he were slow in the beginning. Of course, in most cases, the manual work of the preparatory class and sense training are taught simultaneously.

The earliest lessons should aim at training the larger muscles, and gaining some idea of the underlying principles of the movements, before there is a complex movement.

*Bead threading* usually claims the earliest place in any scheme of manual work, it is a favourite, since not being too difficult, there is something to show for the labour expended.

Threading empty bobbins or button moulds on coloured string threaded with a bodkin, is one of the earliest exercises, for the holes are easily seen, the bobbins large, and therefore easy to handle; next, an alternate button mould and large bead may be tried; this variation prevents the child tiring of the small holes before he becomes accustomed to them.

Bead threading without a needle leads to an understanding of the need for a straight pointed piece of string. The ordinary coloured glass beads can be utilized in all combinations for counting and discrimination of colours. A good deal of facility can be gained by the fingers by these

bead exercises. Prism beads, fancy beads, tubular glass beads and bamboos all have their place in the scheme, when the simpler exercises are mastered. It is important that each exercise should show something finished, and no child should see his hours' work undone and put back into the box. If it is necessary to undo the work, let it be left until the child has forgotten it, or let it be undone by another class.

Bamboo curtains offer scope for any amount of energy and co-operative work.

Bead and string work follow as a natural sequence, and several of the simpler knots of string work are practised in the transition. The simple left and right done for a number of knots (say four) then a bead, makes a good little pattern and impresses the number which is being learnt. Older children can use finer beads to make (*a*) shapes, and (*b*) patterns. Shapes were originally only made by blind children, but as their making involves some use of counting, careful manipulation and accuracy, it has frequently been applied to the training of defectives. Serviette rings can be made on several strands of wire, working in the form of a trellis; flower-pot covers, cups and pots are based on the cylinder form; mats, saucers, flat hair-bands, etc., are based on the square. Tiny beads may then be used to make several variations of the daisy-chain so dear to little girls. The pretty little flat hair-bands and book-marks, etc., in Greek Key or other patterns, are best made on a little loom. Such a loom can easily be made from a cedar cigar-box, without a lid: two holes are bored in each end about two inches apart and opposite each other. A pair of empty bobbins are attached, one on either outside end, and are fastened to each other by means of a strong piece of cord passing through both the bobbins, and then through the holes and

fastened inside the box. The warp of the necklace consists of five or six strands of thread wound round one bobbin, and extending over the open top of the box. These ends are fastened to the receiving bobbin on which the necklace is wound as each piece is completed.

The weaving of ordinary or coarse string on this little loom really precedes the introduction of beads into the warp, but as this would naturally be taken in the ordinary course of the weaving scheme, it would be reached about the same time, as in the bead work exercises. The weaving of beads on the loom forms the most advanced stage of actual bead work. So far no reed has been used in the weaving, for it is important that the pupil shall himself learn from the raising and lowering of each thread.

*Paper Work.*—Paper work is a medium of instruction which has only come into its own within the last few decades, but it has rapidly risen to a deserved popularity. Cheap, sanitary and clean, it is one of our best friends, and offers a special advantage in that suitable paper is procurable in some form and in some quantity by all children.

In the Preparatory Class, some understanding has been arrived at as to shape and material, so that given a piece of paper the child has some idea of its form, but he has much to learn of its possibilities, how it will tear anywhere or according to the position of the fingers holding it, or straight with a soft edge when torn along a fold, or with a clean hard edge when cut with scissors. It may seem infantile, but there are many children in the preparatory classes who do not realize these simple facts. So a series of lessons, interesting, and pleasing the child, are needed to impress these points at the same time. In these, ordinary paper tearing as in Infants' Schools can be done, then folding and tearing along folds or on double paper,

etc. Later on any ordinary paper folding scheme could be applied, letting the sequence, however, be a little more gradual than for normal children, by giving similar exercises on the same principles instead of always proceeding directly to new work. Then, as much of the difficulty of paper work lies in the inability to handle the scissors properly, it is advisable to give some practice in cutting, before the careful cutting of paper is begun. An excellent plan is to teach children the manipulation of scissors while cutting up into small pieces rags, wool, paper, or things which do not matter. In order to give purpose to the work, the rags can be cut up to fill pincushions, pillows, or stools. In the first place, each bit of rag should be cut into two pieces, then after one or two lessons, each piece could be cut into four pieces, and then into the smallest possible pieces. While doing this it will be noticed that the more expert children will cut along any line in the material, or round a flower, or from one spot to another, showing that they have mastered the manipulation of the scissors and are ready for more expert work. They can then be required to cut along lines or round given shapes. Cutting out flowers or patterns from wall-paper and cretonne makes an interesting lesson, and the pieces cut out could be used for ornamenting doors or windows.

Many simple paper patterns can now be cut, then simple objects can be folded, cut, and made up; if the patterns are mounted on cards or brown paper, it makes a more lasting article, and gives practice in use of mucilage.

Objects in the early stages can be put together by means of tiny pins, thus avoiding the extra difficulty in gum, while the child is struggling with the making up of articles. It is quite a good plan to make each little series

of articles from the same sized piece of paper, say four inches, six inches, eight inches squared, or oblong, eight inches by four inches, etc.; then the child can always measure up the square, and in this way he gradually gets a realization of an inch, or a given number of inches, which will be invaluable later, when he comes to measuring out his cardboard or stiff paper. Usually one or two years' systematic training in paper folding and cutting form a sound preparation for cardboard modelling; but where, as in many schools, there is a constant influx and efflux of children, such a course might be repeated every two years.

For the cardboard modelling proper, with its covering and neat binding and mitred edges, there is not really a place in the Special Schools. In the first place, it requires a certain amount of finish and daintiness of which most of our defectives are incapable; and secondly, if they are able to do this, they should be devoting their time to learning a trade. Possibly there is an opportunity for such work in institutions and in the older boys' schools, provided that the boys stay till sixteen.

But for the stiff paper and thin cardboard work there is an important and valuable place. In this work, measurement, calculation, form and manipulation are all required constantly, and the practical useful articles made are splendid finger training.

In the initial stages, the creases may be made with a paper knife, until the idea of cutting along a given line to a certain point has been grasped. But on the whole, children at this stage have no difficulty in handling a carton knife without danger, and soon learn to use tools. From this the step to strip-wood and thence to carpentry is not great, if the principles underlying the paper and cardboard work have been thoroughly understood.

There have been several good books written on this

subject (see list at end of chapter), so that it is unnecessary to deal further with it here, but it would be advisable for a teacher to study two or three of them to see the continuity and methods of transition from one exercise to another, and then to draw up his own scheme for two or three terms' work.

*Weaving* has a distinct, valuable educational purpose, while, well graded, it offers scope for observation, concentration, and accuracy, from the earliest paper mat, to the weaving of towels and tablecloths. However, as such work has a tendency to become mechanical, great care must be expended, therefore, in the grading, in order to have no piece of work so big as to require the performance of certain strokes till they become monotonous, but each piece should be such that it can be completed before reactionary boredom sets in.

There is no doubt that the weaving of paper mats has a definite place in the training of defectives. Beginning with the simple three- or five-strip mats, with bright contrasting strips, children can, after a few lessons, complete such a mat quite accurately. If the child is careful and clean, he can make a production so perfect, that no one can make it more so. Think what it means to the disheartened, discouraged little person to know and to be satisfied that a piece of his own work can be really flawless !

A certain amount of use of the various sizes of paper mats is good training, involving accuracy, care, precision, control of fingers, and gives good practice in counting, and even in the first three rules of arithmetic. Although it is generally found that the completion of the mat, is in itself a source of satisfaction to the children, it may be sometimes desirable to make up the mats into various objects such as flower-pot holders, letter racks, or toy screens.

Almost simultaneously with the early stages of mat-weaving, comes the plain weaving in some other material, such as braid, coloured tapes or leather strips, sufficiently coarse and bright to show mistakes easily. This can be done on little looms composed of a single strip of card-board, simply notched at even intervals along both ends; the warp threads are then wound right round the card, each turn being held in position by the notch. The children can set up the warp themselves, and then proceed to put in the weft with fingers or with plaiting needle. After the thick weft material comes a thinner softer medium, raffia; a plaiting needle or bodkin is necessary with the raffia, particularly as patterns should be attempted showing number and colour variation. Many of the patterns used in paper mats can be utilized here, such as steps and squares or various sizes of diamond patterns.

Weaving admits of possibilities, too, for the older and stronger low-grade cases, for the material used can be varied to suit their mental and physical capacity. For instance, a form of loom for making a simple bedroom mat can be made on a plain wooden frame twelve inches by twenty inches. This is set up by fastening strips of thin felt one inch wide from end to end of the loom, by means of small tacks, or drawing-pins, and leaving some three inches projecting beyond the frame for fringe; the weft is made by weaving strips with the fingers across the warp, again leaving ends projecting; when the weaving is finished the whole mat should be machined round, or firmly sewn, and a few stitches put in here and there to keep it firm. This felt can be bought by the yard, but old felt hats of any shape or colour can be substituted. Beginning at the brim one long strip is cut about one inch wide, round and round, it is then divided into required lengths and pulled tight to straighten.

Straw baskets form a more advanced exercise in weaving; the straw used may be the ordinary Luton straw in bundles of various colours, or rush; they may also be made in combination with the flat pith cane, though this is not so pretty, and forms a more advanced piece of work for straw baskets. A wooden block is made of the shape required; near the top, iron rods are fixed along the two broad sides. The warp strands for the sides are looped over this and passed down the side across the base, and up the other side, then looped over the other rod, where they are fastened by means of drawing-pins. Cross weaving from the ends traverses the base and the circular weaving begins at the bottom of the basket, and goes round and round, till the basket is complete. A simple, though less adequate frame consists only of a stiff cardboard or preferably wooden box, round which the straw is wound to form the warp and fixed in place by means of a few tacks or drawing-pins; the weaving goes across the base then round and round. When finished the strands at the top are cut and the ends tucked into the sides of the basket; a plaited border and handles complete the straw basket. Stout bedroom mats can be made on a wooden loom. This is made of strong strip-wood, and formed into a frame about two and a half feet square, while the reed is made of thin narrow strip-wood. The warp is fastened to brass-headed nails inserted in the ends of the frame, and the weaving is done by means of a large wooden shuttle resembling a plaiting needle. The materials used for this form of weaving must be quite coarse. Thick bunches of old raffia can be utilized, or coarse soft jute and rope fibre are suitable. The procedure is similar to that in using small cardboard looms in raffia weaving.

Of course the thick bunches of raffia make the article strong and useful, but may be considered to produce too

cold a mat to find popularity in this country. However, by substituting carpet selvedge a serviceable article can be made, thick and warm, resembling an imitation Turkey rug.

A cover for a round stool can also be made with carpet selvedge. For this a hoop is used, rather larger than the size required when finished, and large-headed tacks are inserted at regular intervals all round. The warp is threaded across from one side to the other, all strands crossing in the centre, which is then firmly sewn to keep it in place, and the weaving proceeds, round and round, beginning at the centre and working out towards the edge. The principle is the same as for the round raffia mat, but the carpet selvedge is more suitable for pupils who are older and stronger. These last few exercises would be too heavy for young children, and too easy for the more intelligent, but are quite suitable for strong low-grade defectives. The whole weaving scheme is essentially educative, even though only a few children advance to weaving proper, that is weaving of cloth, towels or huck-aback.

*Raffia Work.*—Raffia has long proved itself to be a medium remarkably well suited to the needs of our children; it is distinctive material and admits of scope and considerable variety and progression in teaching.

The younger, and even the big lower-grade children in the preparatory class, can use raffia to advantage. They begin by learning to know their material; for this reason, they learn to damp and flatten out the raffia, as it is used for winding; each strand is then like a narrow strip of thin paper, and can be compared with the round hard strand which appeared when the strand was dry, an analogy being found in tea-leaves.

The flattened raffia can then be used for winding

round and round flat cardboard shapes, the easiest of which is the oblong ; then squares of various sizes can be covered by winding, and numerous articles constructed from this basal form. Next, winding over cylindrical shapes to make serviette rings, or wider cylinders for hatpin stands ; from this winding over round flat discs with central hole is an easy step, and involves a special exercise in the overlapping from central hole.

These exercises may have been done with a needle, but probably the children will prefer to use their fingers here, as well as in the blanket stitches which follow. The cylinders and discs worked in blanket-stitch require some thought and concentration, before the stroke can be performed with ease and skill.

Numerous exercises may be done in winding before the child quite masters the manipulation of the flat raffia ; the beginnings and endings and joins are always rather a difficulty.

Raffia weaving combines the principles of weaving, in which it takes a prominent place, with the elementary principles of early calculation ; it strengthens the fingers, trains the eye, and requires constant attention.

Several suggestions on this branch have been given in the section on " Weaving," as it falls equally under that heading or this, though probably in the matter of sequence, it would fit in better there than here.

A pretty variation is sometimes introduced at this stage, in the covering by weaving round small bottles, such as scent bottles or even ginger jars. The warp strands cover the bottle lengthwise, and then the weaving is worked round using two strands alternately.

Raffia sewing forms also an important factor in the needlework scheme, but as it is largely a subject taken by both boys and girls, it is advisable to deal with it here.

Following on from the raffia weaving, comes the darning on canvas, either in raffia ribbon or with the ordinary fibre. More delicate manipulation of the needle is necessary here, and a more suitable implement is found in the ordinary bodkin or ribbon threader. Ordinary rug-canvas can be used, the white making up into the prettiest articles. Simple darning, under one over one can lead on to over one under two and other varieties involving some thought with regard to number and pattern, when skill with the needle has been acquired. From the darning the step to cross-stitch is slight, and patterns may be done showing a cross over two, three, or four squares varying in lines, or sections, so that any bit of work is varied within a reasonable time of its becoming mechanical. Hemming stitch can also be learnt on this canvas, which acts as a guide for the angle of the stitch. Oversewing is really easier to learn than hemming, but the introduction of herring-boning between, prevents the danger of confusing the two stitches, which is not infrequently the tendency.

This material opens up a field of constructive work for useful and pretty articles in great variety. Bags, blotters, book-covers, cushion-covers, handkerchief saches can be made, while coloured raffia provides a change.

Having mastered the stitches on the rug canvas which forms a sufficient guide and corrective, the child can proceed to the application of these stitches on a less defined material with finer medium for sewing. Some practice in making little models may be gained by sewing up raffia plaits ; the plait may be composed of a few strands of raffia, and when finished is of about the consistency of a fine rush plait. Joins in plaiting can be learnt easily, and encourage forethought in deciding the best moment at which they should be made. The plait can be sewn

round and round to form small baskets, or dolls' hats, the children thereby gaining some idea of shaping while doing easy sewing; girls' hats can be made in a similar way, but must not be too big, or they then prove too heavy to handle or to wear. Very large thick plaits can be sewn round in a similar way to make kneelers for kitchen work, or little seats for the preparatory class when sitting on the floor, for building with bricks, etc. Neat, well-done plaits in raffia of various colours may be utilized in pith cane baskets instead of the customary straw-plait or rush.

Very coarse Java canvas may be used, or a soft hurden, and a transition may be effected from raffia to coarse lustrine or wool. The stitches in this finer material approach more nearly those in actual needlework, and are therefore a definite training for the more advanced needlework and tailoring.

*Raffia basketry* is really a branch in itself leading on to Indian basketry, but as skill in it depends largely on mastery over the coarse needle, and a skill in holding material, it is best preceded by a course of training as above in raffia sewing.

It is questionable which is the easiest to begin with, but I believe the first few exercises should be done with thick strands of raffia as a foundation; in the first place, the joins in this are most simple and can be completed by children with little intelligence and skill; and secondly, being of the same colour, the spaces so often left between stitches in the early stage are not so evident and the child is not thereby discouraged.

From the raffia strands to string as a foundation is an easy step, and the main raffia stitches should be first learned thoroughly on these; the lazy squaw stitch in its varieties of number is usually the easiest, and is soon mastered.

The " figure eight " stitch is more complicated and requires more practice before becoming automatic, so should be applied to a larger piece of work.

Raffia of different colours should be introduced to break the monotony, but the stitch must be learnt thoroughly and it is then not soon forgotten.

Lazy squaw stitch may be used for looped borders, and it is effective as a finish to a basket or mat; but the hem stitching, used either for boarder or intermediate work, although more difficult is most frequently useful.

In the Indian basketry there is always considerable difficulty in making joins in the raffia, and joining the cane foundation when necessary. For this reason all the stitches required in such work must be mastered before attacking these extra difficulties. Considerable development is possible in this work, for patterns of every description exact manipulation and exceptional care in even the most minute detail.

As this work is one of the most suitable for defectives, it is unfortunate that there are few channels along which it may develop; baskets, pot covers, mats, work-baskets with lids, can be varied to a considerable extent, but beyond that, the possibilities are few. However, the training in handling the pith cane should make its use considerably easier when basket-work in pith cane is begun, while the handling of the needle will facilitate the early stages of needlework.

Little mention has been made of the actual models produced, or the details of finishing, joining, etc., for these may be found fully and carefully described in some of the books enumerated below.

*Basket work* follows on naturally from the Indian basketry, and it is a useful training; it should, however, be taught in quite a definite sequence, both as regards

shapes and strokes. It is advisable, too, that the children should work to a certain pattern, and should keep a plan and drawing of each basket as it is begun and should learn to copy a pattern or follow instructions ; a small drawing-book should be kept by each child for this purpose. Each child should therefore, as far as possible, choose his model and measure up the chief lengths—bottom, height and flow. He should then sketch his pattern in the book, filling in the stakes, side stakes, strokes used in base and border or any special characteristic of the basket. This will form a permanent record of work done, and will ensure careful sequence in matters of difficulty. Such a record is especially useful in our schools where each child is at a different stage and all work varies in rate.

Rush seating is a suitable kind of work for the bigger boys, and it can easily be taught in school as the materials are obtained without difficulty, but it requires a good deal of dexterity, some counting, and some foresight.

*String Work.*—This work can well be said to have its foundations in the Preparatory Class in braid plaiting and knitting. A useful plan is to have three strips of braid hanging from the wall at varying intervals ; on these the children learn simple three-plait and the mixture of colours. Plaiting has a particular attraction for girls, which makes it one of the easiest things to learn, and the repetition of co-ordinated movement is a good exercise. A plait of four or five or more may be learnt in the same way, and can be applied to the making of waist bands, hair-bands, or curtain ties, the medium being changed to ribbon, boot laces, etc., as required. Having thoroughly learnt to plait with braid, it is easily done in finer material. Plaits in raffia as already described have also a number of uses. The braids may be used to teach many of the macramé knots, one left, one right, or two left two right,

can be well learnt, the ladder (left and right over two or more), and the curtain tie knot.

The corkscrew and similar sliding knots are unsuitable for braids, as they do not allow of movement; they are therefore better carried out in string; the lower-grade children will find finger exercises in undoing the knots. A number of the macramé patterns can be made with boot-laces, fibre or leather, but raffia is unsuitable for this, as the pattern does not stand out clearly and definitely in this material. A really suitable material for macramé work at a reasonable price yet remains to be found; the string usually used is very expensive, and the work produced is not of much use or intrinsic value, even though the high educational value of the work compels one to encourage its continuance. The special value of the work includes practical number, co-ordination of muscles, and particularly the training of both hands, which is rare in other work. String work admits of any amount of development, and is such that revision of early work is constantly possible in new exercises.

Netting, although mechanical when learnt, is more difficult than macramé by which it is therefore preceded; it is very suitable for bigger children, both boys and girls. Thick soft string should be used at first, or even fine rope, until the children see the parts of the stitch and understand the integral parts of it. The simple sliding knot for netting should be the first attempted and mastered, while some of the brighter children will be able to attempt the fisherman's knot, which though difficult, is stronger and more suitable for hammocks and tennis nets, for the knot cannot slip. Having learnt the knots, the older girls can adapt it to netting for d'oyleys or dish tidies, varying the mesh to make pretty patterns. Netted string bags can also be made for use in kitchen or marketing.

Japanese rope making comes in the category of string work to a certain extent, and has a place in this scheme; but it is soon learnt and rather monotonous when known, it is, however, useful for highly excitable children who need at times the regular movement to calm them down.

*Modelling.*—There is no subject in the curriculum which is harder to teach than this. It is so easy to just allow a child to copy a model, and a wealth of opportunity is wasted. The aim is not the completion of good models, but a definite step in training in each lesson.

Plasticene clay or other suitable material such as permodelle, a pliable wax, suited to older children, is the usual medium, and the lesson is a great favourite.

Modelling is an excellent training, particularly in observation, accuracy of touch, and for visual or tactile memory. A great deal of such modelling defeats its own end, for the children become too familiar with the lesson, and therefore careless when they specially need great care and thought. The selection of objects to be modelled must be made with extreme care, but plenty of suggestions may be found in books on handwork. The teacher should weigh the suitability of an object himself before giving it as a model, and he should know exactly what lesson he wishes to bring out in the performance. He should consider, too, if this is really the best model that he could secure for that particular purpose. Suffice to say that forms such as vegetables and fruits and solid objects form the basis for work in the preparatory and junior classes.

Memory modelling should occasionally be done of some specific object seen and studied shortly before. An exercise little used for training or testing motor memory may be given by letting the child, blindfolded, touch and carefully feel all over some unfamiliar object and then model it; one or two children may be tried at a time.

Flowers are too dainty and delicate, and if used at all should be reserved for the most expert pupils in the top classes. The model falls so far short of the real object that it is sad and disheartening to a child. The higher classes should follow one of the regular courses, with a very definite scheme. There is no lesson in which it is so easy to get into a habit of doing desultory, varied, and unsystematized work.

The fingers should be used as far as possible in shaping the objects, and such as require fine angles, or delicate work should be left till later stages, when clay, knife, and hairpin tools can be used.

Besides the individual work in plasticene or clay, co-operative work should form a frequent study; even the tiny children can co-operate to make the beads of a necklace, or eggs in the nest, etc., while the older ones can work together to make models of gardens, seashore, etc.; or even maps of the configuration of the district, river beds, etc. Some of these require a quantity of material which cannot be tied up in one model for as long a period as the model is in use, so various substitutes can be used; paper pulp makes quite a good substance, it can be made by soaking old blotting-paper in boiling water for twenty-four hours, then mashing it and squeezing out the moisture. It is then mixed with a paste of flour or starch and water; it sticks together almost like dough and makes quite a good material for modelling when damp, keeps its shape for any length of time, and moreover can be painted as required and can be dusted or washed. Another medium suitable for geographical models is composed of a mixture equal parts of salt and flour thoroughly mixed together; the dampness of the salt forming a binding and coloured powder introduced can give the shades wanted; this mixture stiffens soon after taking shape and will last for

several weeks. In colours it is found sometimes that the right shades are not available in plasticene, but it is quite an easy matter to knead up two colours in definite proportion to form any special shade, though, as a matter of fact, modelling should aim at the realization of shape rather than exactitude of colour.

Modelling teaches children to observe and notice and express in their finger work the result of this observation. It trains them to be able to shape the forms which will later on come to hand: for example, good basket work may be the outcome of good modelling, as, also, the putting together of boots in bootmaking or the shaping of vessels in copper-work.

*Sewing.*—Facility in manipulating a needle is an asset in many branches of life, and it is an accomplishment which requires long and continuous practice to make it really useful. Work with the needle involves accuracy and precision, trains the eye to regulate and observe, and controls the finger and eye movements. The Kindergarten sewing on cards is a satisfactory basis; the easiest exercises are probably the picture cards in which the child pricks the holes marked in the outline of any object; the child learns in this to hold the needle drawing the rather cumbersome thread after it, and to insert it into a given hole, each stitch following the other in outline. A slight advance on this is the sewing of a small plain card with lines of holes pricked at definite intervals. Patterns are made by sewing straight stitches, diagonals, cross stitches, etc. In this a further amount of imagination or forethought is required, which is not much needed when following straight outline; various patterns and modifications of this sewing may be made in many colour schemes. Sewing with raffia, or raffia ribbon on coarse rug canvas makes a transition from the poking of a needle into a hole, to

holding the needle in the ordinary way and holding the material somewhat as is the custom in needlework.

Running, stitching, oversewing and blanket stitch can all be learnt by this means, while the foundations of hemming, cross-stitch and herring-boning can be laid. Sewing with coarse lustrine or coloured wool on Java canvas or hurden is effective in emphasizing the shape of stitch, and manner of holding, joining, finishing, etc., while making varied and attractive little articles such as cushion covers, satchel-bags, etc. Then, when the almost inevitable stage of needlework proper is reached, the hemming of dusters and teacloths is made more pleasant and attractive if done in coloured thread such as D.M.C. or any other good coloured embroidery cotton; teacloths hemmed or run in turkey red, with the initials of the school marked in running stitch in this bright colour are attractive and easy to sew; the stitches stand out well, and good work becomes especially striking. This preliminary work is in itself educational, while every step forms a solid basis for the general needlework of the older girls, and tailoring, cobbling and leather stitching for the older boys. Now, although the various subjects, in this section of junior manual training, have necessarily been considered separately, it must not be assumed that each is in, as it were, a water-tight compartment itself. The subjects overlap many stages, and it has been seen that with some, it is almost difficult to adjudge various items to their own sections; so it is in the teaching of the various sections. For this reason it is now usually deemed wise in the time table to combine all sections under some such heading as—Manual Training. However, this proviso should be added, that the teacher keep a record of what is done by each child each day, and that all kinds of work be taught in well-balanced proportion.

In passing on to the Higher or Vocational Manual work it must be steadfastly borne in mind that it is possible only as a definite outcome of the training in the junior departments. It is, therefore, most essential that adequate time, opportunity and teaching be given to this most important section of Special School work.

Every teacher must early realize how many factors are necessary in the training which leads up to the production of really good work in any manual training centre for mentally-defective children.

BOOKS OF REFERENCE.


Plaisted . . . . "Handwork and its place in Early Education."
Judd . . . . . "Learn by Doing."
Otty . . . . . "Indian Basket-Work."
Bowers. . . . . "Raffia-Work and Basketry."
Butler . . . . . "Simple Paper Modelling."
"Handwork for Infant Schools."

## CHAPTER X

### VOCATIONAL TRAINING FOR BOYS

It may sound an ambitious title, but after all, one of the aims of a Special School is to give a child such training as will fit him for his future life, while, in order to do that, he is given instruction in some vocation which he may be able to follow on leaving school. Besides this, the various branches of vocational training give him a fair choice of occupations, and ensure, as far as possible, his finding work to do in which he has had some measure of preparation.

It is most unlikely, unfortunately, that any child will continue at any one trade, however excellent his training for that may have been, for our children are too fond of change and too difficult in working with others ; however, to have learnt one trade well will make other work much easier to him.

With our children, so much lies in the variety and grading of the instruction, that it is of special importance that thoroughly sound systematic training should form the basis for all higher manual work. For this reason, I maintain most strongly that every child should continue his pre-vocational training at least until he reaches eleven years of age, and preferably till he is twelve.

The normal child in the elementary school is not, as a rule, allowed to go to a manual centre until he has

completed his eleventh year, and it is only reasonable to suppose that the normal child of that age is better prepared for it by that age than the sub-normal child. Undoubtedly all children need manual instruction, but without a good preparation it is less useful. Again, in most towns a considerable proportion of the Special School children are retained in school till fifteen or fifteen and a half years, in which case they are doing specialized vocational work for four years or more. Supposing that there is only one trade taught in that school, as there is usually only the one—kitchen-work—for girls, and it is done half of every day for four years or more, it is to be feared that the child will be utterly tired of it, and the thought of it as the life's work would be most repulsive. But take a well-grounded boy or girl of twelve or eleven and a half years of age, even if he leaves at fourteen, he will have had two to three years' special training and will probably know his trade pretty well, particularly after the good grounding in junior manual work.

It is a good axiom that a boy who is going to spend his life, say, making boots, should not be confined only to that subject when at school, but should be given the opportunity of learning other trades also. He will not be able to learn any trade entirely, but he will be a more efficient workman by reason of his even elementary knowledge of tools and materials. It is sometimes awkward in a small school to arrange for variety, but the difficulty may be overcome by sharing two or three peripatetic crafts masters among two or three schools, or by having an Elder Boys' School which the big boys can attend either for certain sessions, or permanently.

Each exercise has a value of its own, while much of what he learns he will also utilize as recreation for his free hours. This is a serious and important consideration ; a

child who cares little for reading or writing, who makes few playfellows, and who is often too heavy, useless or phlegmatic to help at home, and has seldom the wide interests of normal children, urgently requires some little hobby to keep him at home or amused, interested, and out of mischief. This applies equally to children in institutions; their day's work done, they are many a time expected to amuse themselves and play; this they accomplish with difficulty, and would often enjoy adapting for their own amusement, things made in their earlier years at school.

*Gardening* is *par excellence* the work for the big defective boys; farm work, digging, hoeing, and planting, together with many other branches, give just the necessary exertion both for exuberant, over-energetic boys, and for the slow, phlegmatic lads. Not only is it particularly useful for training, but is a work which fascinates, and can often be carried out as a leisure hour occupation. Most Special Schools now have facilities for a little gardening; this may be supplemented by judicious use of window-boxes, or tubs may be filled and garden boxes arranged from orange boxes set up on legs or bricks, for the younger children, who also enjoy this work.

There is an excellent scheme in some of the American cities for gardening. Outside the city boundary (for economy's sake) a tract of land is purchased; it is divided into sections according to the number of schools which it is to serve; a light shed for tools is erected, and the water supply tapped. (In this country the boys could, of course, dig their own artesian wells.) One or two gardeners (both men and women) are always in charge, and the head gardener is provided with a house quite near. Each class has a section under cultivation for market-gardening, and also individual gardens, and periods each

week are scheduled for this work. I think the scheme is one which admits of development here. If an Education Committee were to purchase a building site on the outskirts of a big, growing town, it would cost comparatively little, and could be used for school gardens for several years before the town has increased sufficiently to need the site for a school building. Nowadays many teachers are to be found well qualified to undertake the charge of a garden, and this lesson could alternate with some work in his own class during inclement weather; moreover, the whole concern could be made fruitful and co-operative, for supplies of vegetables could be bought by schools which provide dinners for the scholars, and defective boys who have left school and are unable for ordinary work could be employed carting from the gardens to the schools.

The gardening must not be carried on in any haphazard manner, but must be taught systematically. Plants, flowers, and vegetables each demand a share, and require specialized knowledge in order to produce the best crops. The needs of biennials, perennials, root vegetables, need to be known, and the general rules as to planting, thinning out, transplanting, etc. Gardening offers scope for the activity of a large number of children in an allotment of moderate size, for trenching, weeding, hoeing, mowing, all require frequent labour. It is useful, too, for such classes as ours, where children vary so much physically as well as mentally, for suitable work can be found for all.

The garden work can be correlated with other manual work to some extent. Weeding baskets, strawberry baskets, flats, sweeping brooms and besoms may be made in the manual rooms. Strawberry netting can be made in the same way as hammock netting, but with finer dark string. Woodwork can also be used to help, for

pea-sticks, dibbers, wooden labels, nesting-boxes, and other apparatus can be made when required.

*Woodwork and Carpentry.*—Wood is such a splendid medium for expression, training, and education generally, that it is now a regular part of the work of every school; indeed, much of the work in lower classes is a preparation directed almost deliberately towards woodwork. Suitable transition from paper and cardboard work to carpentry is made by way of strip woodwork and light woodwork.

In strip woodwork, the material is one which at once gives the child a feeling of superiority, because wood seems a step considerably in advance of cardboard. The work exacts great care and accuracy, and yet a greater output of energy and strength, while the articles being completed and of real use are a special joy. The child learns the use of a few tools, hammer, tenon-saw, and bradawl; he uses them in an easy way at first, learning to handle correctly these light tools, which he can master more easily during this preliminary practice. He can use the ruler, marking gauge, tri-square, and sandpaper, and learn to nail neatly, make right-angles, and fasten strips together.

As a rule, a scheme of strip woodwork, allowing one or two lessons weekly for six or nine months, will suffice, but it is usually more convenient to complete the year's course. An outline of suggested course is given below for thirty lessons (see p. 189). The work should be graded both as regards measurements and use of tools and wood; but the teacher would do well to consult some of the useful and suggestive books on the subject, and having made it his own, draw up a scheme, following the principles laid down and adapting the models or additional models to the special needs of a particular class. It is seldom wise to adopt any given scheme in its entirety. A teacher needs

to have a strong faith in any scheme that he uses, and to be sure that he will be able to satisfy his own intelligence when questioned about it. It is easy enough to be able only to satisfy the questions of others; a true educationalist must be fully persuaded in his own mind, having honestly and without prejudice thought it out. This applies to manual work especially, as there is more scope for selection than in ordinary class lessons.

*Woodwork* has long been acknowledged and approved as one of the best forms of manual work for defective boys. It is excellent training in accuracy, foresight and general handiness, while the boys can be usefully employed in adapting their exercises to their own use and that of the other children. The general work is usually in the hands of a trained and competent teacher who would, of course, work on definite lines; but in cases where a skilled worker in wood is employed with perhaps little knowledge of the underlying principles of education, a clear progressive syllabus should be exacted by the head teacher of the school.

Many of the articles needed in school can be supplied by the boys in the woodwork shop—various blocks, bricks and strips used in preparatory-room, the form boards, frames for exercises in fastening, small looms, furniture for dolls' house, etc., little boxes for holding chalk or crayons, frames for picture post-cards, stools or stool frames for canework, little chairs for rush-work (for use in preparatory class), rug frames, and many other articles used in school can be worked into a scheme for light carpentry.

Picture framing is a most useful adjunct to woodwork. The tools are few and simple, the opportunities for using the skill acquired are many, while it is most valuable as a self-corrective exercise—inaccuracies are at

## STRIP WOODWORK

| | | | *Exercise.* |
|---|---|---|---|
| *Models in thin wood, $\frac{1}{2}$″ by $\frac{1}{4}$″.* | | | |
| 1. Cross . . . . | Measurement | 2″. | |
| 2. Angle . . . . | ,, | 2″. | Corner nailing. |
| 3. Letter L . . . | ,, | 2″ and 3″. | Corner nailing. |
| 4. Square . . . | ,, | 3″. | Combining angles. |
| 5. Rectangle . . | ,, | 3″ and 5″. | Combining angles. |
| 6. Letter T . . . | ,, | 2″. | Use of Marking Gauge for $\frac{3}{4}$″ and nailing end to middle of strip. |
| 7. Letter H . . . | ,, | 2″. | Ditto. |
| 8. Pot-stand . . | ,, | 2″ and 3″. | Centre fixing and revision of corner nailing. |
| 9. Frame . . . | ,, | 3″ and 4″. | Overlapping corners. |
| 10. Screen . . . | ,, | 5″ and 4″. | Overlapping strips near centre. |
| 11. Ladder . . . | ,, | 6″ and 2″. | Revision of spacing without overlapping. |
| 12. Gate . . . . | ,, | 8″ and 3″. | Revision of spacing with overlapping. |
| *Models in square wood $\frac{1}{2}$″ by $\frac{1}{2}$″.* | | | |
| 13. Letter T . . . | ,, | $2\frac{1}{2}$″. | End nailing. |
| 14. Letter H . . . | ,, | $2\frac{1}{2}$″. | Double end nailing. |
| 15 and 16. Letters F & E | ,, | $1\frac{1}{2}$ and $2\frac{1}{2}$″. | End nailing. |
| 17. Abacus . . . | ,, | $3\frac{1}{2}$″. | Combining angles and nailing ends. |
| 18. Swing . . . . | ,, | $6\frac{1}{2}$ and $4\frac{1}{2}$″. | Combining angles with thin and thick wood. |
| *Models in flat wood, 4″ by $\frac{1}{4}$″.* | | | |
| 19. Nailing flat letters on wood | ,, | $5\frac{1}{4}$″ by 4″. | Sawing flat wood and spacing on a wide surface. |
| 20. Form Board in frame. | ,, | $7\frac{1}{2}$ and $4\frac{1}{2}$″. | Square legs nailed to |
| 21. Plain Table . . | ,, | $6\frac{1}{4}$″ and $3\frac{1}{4}$″ legs. | extreme corners. |
| 22. Chair . . . . | ,, | according to requirements. | |
| 23. Match-holder . | Arrangements of double flat sides. | | |
| 24. Cart . . . . | Sloping, and arrangements of handles. | | |
| 25. Hutch . . . | Door and thin laths. | | |
| | *Corner work.* | | |
| 26. Pipe Rack . . | Cutting off large right angle. | | |
| 27. Coal Hod . . . | Cutting off large right angle. | | |
| 28. Tooth-brush Rack | Cutting off double angles. | | |
| 29. Looking-glass. . | Cutting off angle on squared wood. | | |
| 30. Swing (finishing off). | Cutting off angles on squared wood. | | |

once detected by the child, and exactitude is noticeably essential. Moreover, a slight mistake does not mean necessarily waste, for the pieces spoiled may be cut down for smaller articles. Although few children take this up as a trade, there should be an opening for such in many towns; the material is easily procured, and the child staying at home has orders brought without soliciting them.

In heavy woodwork, many of our boys, big and strong as they are, can turn out work which could hold its own with that of many a regular carpenter. Co-operative work is frequent in this big, heavy work to reduce the amount done by each and get the article completed sooner. The use of all ordinary tools is taught, and all branches of work are learnt, sawing, planing, dove-tailing, fitting locks, inserting panes of glass, roller wheels, and fixing on handles. Among the things that can be made in a good manual room are boot-blacking boxes, toilet-boxes, tool-chests, screens, cupboards of all kinds, chests for keeping needlework or canework, dolls' houses, vegetable rack for kitchen, small bed for housewifery class, Honour Lists or Roll of Honour, book-shelves, museum cupboards, crutches (to measure) for children at Cripple School. These are just a few of the things taken at random, but on looking through requisition lists it is astonishing how often appear items which can be ordered from a Special School manual training centre.

Besides the new work, repairs should also be undertaken by the boys who can use their tools well. Oftentimes a screw put in or a nail driven will prevent a serious break, and be a saving of time and money. A screw may be loose in a desk, the back coming apart from a scrubbing brush, the peg from an easel needs replacing, the hinges loose from the dolls' house door, the glass broken in a

picture, or a shelf may need fixing; all these and many varieties of repairing can be undertaken by skilful little carpenters, who will especially enjoy being useful and learning to do things whereby they may prove their value at home. Those Special Schools which are in close proximity to a Cripple School can make their usefulness felt by mending chairs, re-caning couches and repairing or lengthening crutches, etc., etc. Moreover, it is wonderful what a joyous spirit is provoked when the boys set out to find things which they can mend, and people they can help thereby.

There is probably no employment which makes a child more handy and self-reliant than working with wood. The material used is one with exceptional possibilities for the best and the worst children, while the knowledge of the use of simple tools is valuable in many of the occupations which our children are likely to take up.

*Boot-making* is a form of manual work, much of which can be done by low-grade boys (mentality according to Binet-Simon scale of seven or eight years); it is especially valuable for the big, heavy lads who are so much further developed physically than mentally, for it utilizes their great output of energy in work which does not need a great deal of thought. The early training in cutting and measuring help, and practice given in knocking nails into a tree-trunk, in the lowest classes, together with the building up of letters by means of nailing, give a facility which time and practice alone could produce.

Boot-making is particularly suitable for those children who have no capacity for finer or more accurate work. The sewing with a bristle is only proportionately accurate, while it is not vitally important that every stitch should be exact. So with the nails, although exactitude and regularity are aimed at, a little irregularity does not make

much difference to the wear of the article. This subject is most useful as a training of those big, sturdy lads who need heavy muscular exercise, and who ought to work off this excess of energy in suitable occupation. Sometimes a heavy, sulky lad may become much brighter and more reasonable with this hammering and hard polishing. Again, the bad-tempered lad expends that pent-up force in work like this, and the energy is turned into a useful force. The boys should learn to make and finish every part of a boot; it is only by understanding the entire structure that the child can be expected to undertake repairs intelligently. It may be necessary to buy the uppers by contract in a big institution where the number of boots required exceeds the possible output from the workshop, but even then every boy should have occasional opportunities of making an entire pair of boots from beginning to end. The satisfaction to a boy on being able to affirm that he can make an entire pair of boots is intense. Clog-making forms a good, useful adjunct to boot-making, for while much of the work is similar, there are points of difference which make it appear to the boy in some respects a new work.

Boot-making, as a trade, is not one at which children such as ours are likely to excel. Hand-made boots are almost entirely superseded by the well-fitting and satisfactory articles which can be made by machine, and procured at a reasonable price. So that only the finest and most expensive goods are now hand-sewn. Our children could rarely attempt this class of work. Boot-mending, or cobbling, however, is a trade which is particularly to be recommended for our boys. It is not a lucrative trade nor one at which there is a great deal of competition, but boots will always require mending in all the walks of life. Then the cobbler is frequently a

respectable man with a little business of his own, and it is to his interest to teach his assistant and help him in every way; this is just the kind of supervision that our mentally defective lads need. Again, even if the boy is incapable of going out to work, a wise father could set up a little workshop in his own house where the child could work at his leisure for neighbours and friends.

*Leather-work* is a development of this trade which is suitable for the boys who having mastered the boot-making, can stitch neatly and accurately, and who can handle tools and cut out with judgment and foresight. This work needs rather full equipment if it is to fulfil its best possibilities, but the tools are strong and will last for years. Many varieties of leather articles can be made, such as straps, purses, dog-collars, school satchels, together with other articles made with a combination of leather and other materials, such as travelling holdalls, belts, and so forth.

Although the training in this work is so valuable, there are few opportunities for a boy to take it up as a trade on leaving school, as so much of that kind of work is done by machine. But where a boy shows special skill and aptitude for such work, a saddler or trunk-maker in the town would probably be glad to employ a boy who who has been well trained in this work.

*Tailoring* is a form of manual work frequently found in Special Schools, more, possibly, on the ground of expediency than because of any high educational value. Little special apparatus is required, almost any room can be arranged for this class, while no difficulty is experienced in finding a suitable tailor to teach this subject.

The preliminary stitching, which is monotonous and uninteresting, needs a great deal of practice before it is possible to allow a child to begin work on a garment, so

that he often gets tired of the work before he has a chance of realizing for what he is training. But when once he has succeeded in neat stitching and felling, he has some chance of going on to some interesting work. There are many little bits in tailoring, such as pockets and button-holes, which need the utmost care and can only be done by expert boys. Tailoring requires thorough preparation in the lower classes, or the difficulties of holding and stitching will soon render it distasteful to the pupils. Here the raffia-sewing has cleared away the hardships of manipulation, and has given skill and pliability in the use of the needle; drawing and ruler-work have given confidence in measuring and cutting, while paper-modelling has trained judgment and forethought in planning. It is especially recommended that each piece of work should have a definite purpose; each suit should be made to measure for a given boy, even if he is not intending to buy the suit. A coat is more interesting if it is made for a known person.

This work may be made co-operative by letting the expert boys make cloaks and coats for the nurses in the Cripple and Open-Air Schools in the district, and also in many cases the clothes for children being sent away by the Education Authority to Institutions.

There is a great deal to be learnt in tailoring that is useful, apart from the fact that a child who can make and mend his own clothes becomes naturally more self-respecting and self-reliant. It has, however, a subduing effect on the restless, excitable boy, for whom it is especially suitable. But it is best taught as one branch of a scheme of handwork. A boy, however good at tailoring he may be, if able to do this only, is not a well-equipped boy. As a subsidiary subject of manual training it is good. Of course there is also this disadvantage, that, as a vocation

there is little opportunity for our boys (except for such as will be sent later to residential homes). Cheap goods are machine-made, and our children could rarely undertake even the simplest parts of made-to-measure garments.

*Willow-work.*—This is a development of the Indian basket-work and cane basket-work which has not yet been undertaken in many schools, probably because it is slightly stiff for little girls and boys, while the older boys go on to other subjects. It has, however, a high educational value, and the work appeals to the big boys, who like to use their muscular strength in gaining the mastery over the tough willows.

Such work needs careful preparation, so that the child is not deterred at the outset by the double difficulties of material and method. If he has mastered raffia-work, and has learnt the formation of little shapes; if he has studied pith canework, and knows the general rules, he will come to the willow-work with a zest which will help to overcome the hardness. It is advisable to use only the smallest willows, such as "tacks," and the finest "short smalls" for all the earlier work in this subject. There are few cities where basket-work is carried on as a trade, so that the possibilities of willow-work as a trade are few. It is advisable, therefore, to consider this subject purely as a subsidiary and educational one. There is another reason which makes one diffident in recommending this as a vocation. It is one of the trades which we have come to identify with the blind, and we would not encroach on their work, limited as it is by their handicap. To train our children by means of basket-work is a different matter; we can share this medium without the least compunction.

*Chair-caning* forms a good adjunct to basket-work,

for it follows naturally from elementary weaving and manipulation of various kinds of cane in the more advanced basket-work. It is a useful work, too, for those children who find the willow-work too stiff and heavy for them. It is, moreover, best suited for the children who are accurate and careful, for counting and judgment are needed in regulating corners and in estimating the lengths of cane necessary for any particular stretch.

The star-pattern, although not so strong, is the easiest to learn, and the child can master the intricacies of beginnings, joinings, and endings in the first few settings and weavings. The four-time pattern presents little difficulty when the elements of pegging and cornering are mastered; but the six-time needs a good deal of practice, while it is probably beyond the capabilities of many of our children.

Some of the difficulties may be forestalled by letting the child practice for a little while on a slate frame, pierced along the sides and ends, with leather boot-laces, just to learn the beginnings and a few rules: the glossy cane is rather a disconcerting medium with its tendency to cockle and crack, and such preparatory exercises would be helpful. Children must be quite familiar with all strokes on straight-sided stools before attempting curved chairs.

As a vocation, the same remarks may be applied to this as to willow-work, but it is educative work, and trains a child to be handy in his own home.

*Metal Work* in several of its branches can be taught in schools, and is a preparation for some of the metal trades. Filing, hammering, beating, and cutting in tin or copper offer scope for the energies of the big heavy lads, while tin-smelting, cutting, measuring, and soldering are good for the smaller, less sturdy ones. This is rather a technical subject, and needs a good deal of equipment. It will, however, be of use in cities where many of the

trades followed are metal trades to which the boys may go on leaving school. They are undoubtedly more handy by reason of the metal work already done, but the employers, as a rule, have little faith in such work learnt at school.

*Printing and also Bookbinding* come into much the same category as metal work. A good deal of simple bookbinding can be done in day schools, developing from cardboard modelling, and it is a handy, useful trade. Printing by means of a writer-press (picking out and putting in position the letters in a frame from which numberless duplicates may be printed) is easily taught, and a useful subject in school.

To carry out either of these trades properly, a good deal of equipment would be necessary, but both can be admirably done in institutions, and preparation for them can be begun in schools.

*Loom-Weaving.*—As a subject of real educational training of a high standard, this is excellent. It is a work, too, which is well suited to nearly all the medium and higher grades of children, for it can be varied according to intelligence. Many varieties of work can be done by mentally defectives on looms. The coarse, heavy work of weaving thick material into rugs on a warp of strong cotton can be done by medium-grade children, for the thickness of the material renders mistakes obvious at once, while the warp does not break, and the selvedge is not so important at this stage. The use of a flying shuttle takes the responsibility off the child, but thereby decreases the educational value somewhat. Rug-making on a loom is done after the fashion of Turkey rugs, running two or three strands of woof between the rows of pattern made by tying in the little bits of wool. This is suitable for the fairly intelligent children (Binet age, seven to nine years). Weaving of finer materials can be done by

children who test to about nine to eleven years' intelligence. Dusters, towels, roller towelling, form excellent exercises. There is such constant movement, and such need for deliberate care, attention, and concentration are needed on every throw, to see that no thread is slipped, that none have broken, that the edge is even, that the roller is not ready to be turned on, and that the heddles are hanging properly. Moreover, the counting for squares or any simple pattern, and the measuring of the day's work or of the towel which is to be a given length, all need to be remembered at the right moment. Later on, the weaving of material such as home-spun exacts considerable care, for the difficulty is greater; the wool is apt to pull and break readily, so it needs special attention to notice this.

More advanced pupils can make material of a more complicated pattern, but the time spent on this in school is too short for this, and must usually be left for institution work.

Every bit of the preparation for the actual loom-work can be done by the children. The middle and higher children can measure off and wind the warp; they can thread the warp on to the loom themselves, they can thread the heddles and reed according to number. While all can make bobbins and fix them into the shuttle, make the heddles and place them, and every child can make its own arrangements at the loom for winding and tightening up.

Besides the value as mental training, the movement develops the child physically as well; the muscles in both legs are used for the treadles, and both arms for throwing the shuttle. The child must sit straight, as limbs are used equally on either side, and he must straighten his back at each throw.

Weaving is really a vocation for institutions rather than schools, although a good deal of preliminary training can be given in a few years in a day school. There is practically no scope for mentally defectives for work of this kind in a city, but done in an institution would probably develop into a fruitful and remunerative trade. Hand-woven towels and cloth wear splendidly and always look good, but there is such difficulty in procuring them that it seems as if an opening in this line could be found. The difficulty of finding a suitable teacher might be a deterrent, but this could be forestalled when once the beginning had been made by training a young teacher for two or three years to assist the weaving teacher and learn the work.

Brush-making, rope-making, rug-making, and coir mat-making are useful preparation for institution work, and therefore suitable chiefly for the lower grades of older mentally defective children.

*Brush-making* is probably the most difficult of these, but it is not an arduous occupation, nor one which requires much intelligence when once the main points are learnt. The great difficulty lies in judging the amount of fibre for each hole in order to prevent waste or inequality, necessitating considerable trimming. This is a useful trade for an institution, as the brushes for all departments can be made, renovated, and re-made, but it tends to be monotonous.

*Besom-making,* which belongs in a way to brush-making, can be done by the stronger boys with medium-grade intelligence. This is, of course, suitable mainly for institution work, as the equipment needs more space than is usually available in a day-school. However, if the room is possible, it is work which fastens the attention and trains concentration. The necessary apparatus includes

flat-bottomed troughs to keep the rush ; broom-machine, an ingenious contrivance by which the broom-handle is fixed in a vice while the stout wire is unrolled over the vice in such a position as to easily bind the rush to the handle ; a stand to hold besom while sewing the rush flat and in place ; a cutting shears, such as used in brush-making ; a large horse-comb for combing out and flattening the finished besom.

*Rope-making* serves a good purpose for calming excitable low-grade children. The plant for this needs to be specially constructed, but will last for an indefinite length of time. It is used largely in Japan, where several little machines are to be found in many houses.

It is a slow process, but the rope is strong, and even the fine cord is strong and useful. It is rather expensive, as good things frequently are, but is most durable.

This work has little use as a definite occupation, but may sometimes be used by a child in intervals of waiting for material or help in his own work. It is inclined to be monotonous and tiring if persisted in for any length of time.

*Rug-making.*—The rugs made of hurden and cloth can be made by any low-grade child, but when once known offer little further education. In an institution such work might be useful in providing equipment for rooms, but this is working from the wrong end somewhat. Work must be done first with an educational object, and then, when that value has been extracted, the facility can be applied to some economic purpose.

Wool rugs are expensive, but they wear well. The making soon tends to become monotonous. As soon as a child has mastered the manipulation of the wool and canvas and knows this thoroughly, he no longer needs to do plain rugs, but should proceed to make patterns which

exact some further attention. Beautiful designs and conventional patterns exacting care, patience, and forethought, can be made by trained workers without a great deal of supervision.

*Coir mat-making* is suitable for institution work, but it is hard and rough for the fingers. The diamond pattern is easier than the figure eight, and can be learnt without difficulty. It is good practice for the children to make their own coir by plaiting up the strands of cocoa-nut fibre, but the mat does not look so well when finished, which is a slight disadvantage if the goods are to be sold. The coir can also be made from rope-fibre unravelled from the clean inside part of old cables and plaited up in the usual way. It is strong and easier to work than the cocoa-nut fibre.

I think the ideal procedure would be to allow boys for the first two years in the higher manual classes to take several subjects, one or two main and one subsidiary subject. For example, one boy might be well suited to woodwork and willow-work and loom-weaving; another might do better at tailoring, woodwork, chair-caning; again, another might take metal-work, boot-making and brush-making. These would all be useful to him in whatever branch he was finally to study particularly. Then during his last year at school his vocational work would be studied specially. At the same time, it seems advisable that each child should keep up his subsidiary subject in order to prevent monotony.

One point which needs careful consideration in determining the vocational work for any particular child is his probable future. In a great measure the normal child is given a thorough elementary education, and on leaving school he then has to discover what work he will do, and then often it is several years before he finds

actually what should be his vocation. It is an accepted fact that a good general education makes it possible for any one to take up almost any kind of work without difficulty, but at the same time, the regular training cannot be dispensed with, although it may be reduced.

However, we know that the mentally defective person is incapable of choosing for himself a vocation, and equally incapable of adapting to any extent the education given him. He must then be trained as far as possible for the work of which he may be reasonably expected to make use.

Thus, in the manual training of Special Schools we have to bear in mind the two great aims of the work :—

(*a*) To develop and strengthen the moral character of the child.

(*b*) To make him self-supporting.

In most city schools a small proportion of the children in the Special Schools will, under the present laws, be cases for institutions. It is most necessary, then, to consider all cases within a year or two of their school-leaving age, and to train them suitably for their future needs. In those cities where a residential school for defectives is part of the scheme of education of the Local Education Authority, there should be thorough co-operation between the day-schools and the institution, so that time and opportunity shall be lost for no child.

There can be co-operation also to a valuable extent by working in the manual shops for the use of all schools. There is sometimes a difficulty in disposing of the articles made, and sometimes valuable educational exercises are omitted on this account. There are many things which can be made for one department of a school by another, or for neighbouring schools. Towels, dusters, and table-cloths can be woven, scrubbing-brushes, nail-brushes

for kitchen and toilet lessons; pictures can be framed; rugs and mats can be made; pamphlets, music, and books can be bound; and innumerable articles in woodwork can be added to the school equipment.

The ramifications of co-operative work are far-reaching and the possibilities are great. The Special School is just a part of a great scheme of national education, yet at the same time is an organism of its own, living, working, developing. And it is in this wonderful vitality, breaking away from any preconceived ideals, promulgating new theories, fighting for convictions, that the Special School in fitting each child to the best for his own future life, will prove to be a power felt throughout the national scheme.

### BOOKS OF REFERENCE.

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Okey . . . . . "Art of Basket-Making."
"Book of School Handwork." Six vols.

## CHAPTER XI

### VOCATIONAL WORK FOR GIRLS

In boys' work we have endeavoured to train their foresight, judgment, reasoning and common sense, and at the same time to lay a good foundation of knowledge and the power to do things which will be useful to them in any pursuit.

We must be equally definite in training our girls. In them must be trained the same valuable qualities as well as the power to do things. If we train girls in exactly the same way as boys, it is probable that they would take up the work just as eagerly and fruitfully. As has been shown in schools where carried on, they would soon saw, plane, or hammer as neatly and carefully as the boys; they could plan with just as much foresight and carry out with just as high a degree of accuracy many of the simple woodwork models. Did time permit during school age, one would like to see girls taught woodwork, leatherwork, tailoring, cobbling, or other boys' occupations. But time is too short, and some training must be given to fit them to earn their living and to make them useful in accepted ways.

It is advisable, however, that every girl and boy should share in the junior manual training. There is a great deal in this, as shown above, which can train fingers to facility in manipulation, and consequently improve the mental condition of the child. It is doubly necessary for the girls, because they have little opportunity for

training in scientific exactitude. Boys continue this branch of their training in the workshop and their later work frequently emphasizes the need for precision. The manual work of the girls falls along much less exact lines and is of a much more general character. For this reason care should be taken not to withdraw girls from the junior manual training departments too early. If a girl is going to spend half of each day in the kitchen for the last few years of her school life, the minimum age for beginning that work should certainly not be less than eleven years and preferably twelve; while in the case of those children who will surely need to be kept at school until sixteen years of age, twelve and a half or thirteen years is quite early enough to begin to go into the kitchen. It is not because they cannot do the work, for many a child of seven can do a good deal of kitchen-work, but rather because there are other things more important for the girl to learn, and, moreover, one does not want her to tire of domestic duties.

*Plain, simple cookery*, preparation of vegetables and washing-up, all come easily and readily to even the middle-grade defectives, and as domestic service in small middle-class families forms a good opening for these girls, this work is specially to be encouraged. Similarly, all house-work should be taught, for the routine management comes easily to defective girls, and there is opportunity to learn by observation of daily work. In schools where there is a kitchen, the girls have a chance to do a good deal of useful work in preparing dinners for other scholars, and tidying up and cleaning kitchen utensils; where, however, this is not part of the school equipment, a room could be rented in a house near by, and the housewifery lessons made practical by application. This work follows on easily and naturally from the Preparatory Class training;

the tidying up leads to washing up, and the scrubbing of bowls, tables and forms is preparatory to the scrubbing of bigger things, while insistence on cleanliness observed throughout is one of the fundamentals of both cookery and laundry work.

The most practical and sensible development of kitchen work is in the provision of meals for the children in the school. This serves a double purpose : the children can obtain a well-cooked hot meal at a reasonable price, and the little kitchen-workers can have practical experience in cooking simple, nourishing dishes. Of course, in many small schools the children do not stay to dinner, but possibly the provision of the teachers' dinners will give some scope for cookery.

If there is little to do, a kitchen class of five or six girls two or three times a week, in the mornings and afternoons alternately, will ensure the girls having experience in all branches of kitchen work. On the other hand, in large schools the number of meals required when many children stay to dinner, tends to magnify the importance of the dinner and minimize the education received by the children. Fifteen girls should be the maximum number in a kitchen class at any time, under one teacher. These can cater for thirty to forty children each day without undue rush and pressure ; beyond forty hot dinners, an extra attendant or under-cook should be engaged, while the Special School kitchen is quite unsuited for the provision of dinners for any number over eighty. A good plan is to engage as under-cook or dinner attendant one of the most capable girls of the school on leaving, and pay her the usual wage. She would understand the ways of the school, would be able to assist the teacher and scholars, for she would know the routine of the school and would still be under adequate supervision.

The ideal kitchen in school is conducted in the same way as that of a well-ordered house. Cooking and preparation of meals form the main business of each morning, and when the chief preparation is finished, the cleaning and general housework are done. After this comes the tidying-up preparatory to serving dinner, and after dinner washing up and cleaning the kitchen precedes sitting down to an hour's quiet rest with needlework, mending or knitting.

It is best to have a weekly menu and use it during several weeks, so that the same lesson may recur several times until it is known. The children must know, too, the principles underlying the different methods of cooking, and in a general way the reasons for treating different kinds of meat in different ways. The preparation of milk and suet puddings, various stock soups, and ways of cooking vegetables and potatoes, will practically cover the needs of mentally defective girls. They do not need to know a great deal, but what they do know must be thoroughly impressed by constant repeated action, or it is of no use, and they will certainly forget the essential points when they come to work by themselves.

Of course, the girls in a kitchen class vary considerably as to their capacity, but it must not be forgotten on that account that each one should be encouraged to do the highest work of which she is capable. It may be expedient that each girl should not be required to perform every kind of task, but it is unjust to keep a girl, however feeble, at some dull, menial task until she can do it without any attention, until she considers herself incapable of anything better.

Care should be taken to make each girl entirely responsible for some part of the work to be done in the kitchen. All the more capable girls should be made

directors of a little staff under them, and should have to be answerable to the teacher for the proper performance of each duty.

A good plan is to divide the class periodically into little families, each, for example, with a mother, cook, kitchen-maid, housemaid, and errand-girl; each little family will be responsible for the arrangements for one table, setting, provisioning, buying the food, preparation, waiting, and clearing away. The positions would be changed from time to time, and each would learn the duties of her office thoroughly.

There is scope for all kinds of useful development in the kitchen, and where such work is done it has proved most efficacious in brightening and interesting the girls.

*Housewifery* should include care of the Staff room, sweeping, dusting, shaking mats, and cleaning the grate. There are ample opportunities for this and for polishing brasses, cleaning oilcloth, small windows, and for tidying out cupboards and performing other similar duties in any school.

A large doll's bed, four feet long by three feet wide, is a useful piece of equipment. Such an article may be made in the workshop by the boys, while the making of the sheets, pillow-cases, and bedding form good exercises for the girls in needlework. A large doll can also be used for practice, the night and day clothes being made by the girls also. The regular daily routine would consist of wakening, washing, and dressing the "baby," opening and airing the bed, making it correctly, and in the afternoon turning down bed, then undressing and washing the "baby" and putting her to bed. A good deal of simple hygiene and infant care can be instilled into the girls during incidental talks on this work.

*Laundry work* forms a most useful occupation, and is

both educational and practical. Many of the girls will go into domestic service of some kind, and it will be of benefit to them to know how to do the simplest kinds of washing in the proper way. But more important than this, the girls will learn how to wash their own clothes and take a pride in clean, decent apparel.

It is important that the laundry teaching shall embody the best methods of washing, and at the same time shall be carried out with plain, ordinary apparatus, without any elaborate appliances such as found in demonstration centres or schools. Sorting, soaking, washing different articles, whites, colours, flannels, etc., all come within the scope of this work. Drying, starching, and ironing simple articles, folding and airing can all be thoroughly learnt in this class. It is, as a rule, unnecessary and impracticable to teach advanced and elaborate starching and ironing. Practice-work can be furnished from school equipment. Towels, dusters, and rough aprons are available for early lessons; dolls' clothes, bedclothes, and table-cloths for intermediate class, white traycloths, best aprons and occasional things brought from home by teacher or children, give varied opportunities for starching and for the washing of flannel.

One of the chief points to impress in the laundry work is the necessity for routine. The correct time for soaking, so that things are not washed just before they are wanted. The best time for ironing and the condition of clothes best for this in different materials, folding and airing.

*Needlework.*—This subject has suffered of late years on the rebound from its previous unique position as the only manual work for girls. This is a great pity, for it is a need which is always present, and an art in which interest can frequently be aroused.

It is important that every girl should attain a certain

standard of proficiency in this subject, but the standard should be gauged by the amount of needlework which will be required of the girl in later life, and should be practical and useful. Plain sewing, simple mending and darning should be taught, and some elementary ideas of renovating and making up are useful. Knitting of simple articles in wool and cotton together with simple patterns in crochet and some understanding of the copying of patterns seen, forms an especially useful occupation; crochet cotton is cheap, little patterns can be used for personal adornment, and a pleasant, easy amusement for leisure hours is provided.

Higher manual work for girls should always include, besides domestic work, a certain number of lessons in which training and education are the supreme objects; drawing, painting, cardboard work, ruler drawing, should never be entirely excluded by the rougher and more haphazard household tasks.

So we try to develop our girls in an all-round, sensible and practical way, giving them a training which will be useful to them in whatever position they may be called upon to fill. At the same time, we try to raise their self-respect by teaching them care for the nicety of their own appearances and the neatness of their own homes. If the girls later on need to go into institutions, they will be able to take their part in the general work of the place, and if they are able to go out into the world, we hope they will have been helped to be stronger and better and more capable citizens.

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Swanson McBeth . "Educational Needlecraft."
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# CHAPTER XII

## SCHOOL ORGANIZATION

As this book is intended for teachers, who, as a rule, have little voice in the original plans and founding of the school, little need be said here about the administrative side of school organization. It may, however, be of interest if we briefly mention some of the chief types of schools that have grown up since the inception of day classes for the mentally defective. These vary considerably in different towns according to locality, grade of children admitted, aim of the committee maintaining them and the various visiting inspectors. The curious thing is that, travel where one will, each authority seems to consider that its own particular scheme is quite the best, and it is indeed rare to find an authority making modifications. This is probably due to some extent to the fact that Special Schools have not been established, in most cities, long enough to enable the authorities to decide on the relative merits of different schemes. There is, however, great variety in Special Schools, and it behoves us to study all kinds in order to extract the best from them all, and be prepared to found the ideal one for any district when the opportunity arises.

First, let us consider the very large Special Schools which are found in many European cities, although not as a rule in Britain. These consist of anything from

twelve to twenty-six classes, with twenty to twenty-five children in each class. The largest school I have seen, that of twenty-six classes, was the total provision for Leipzig, a city with a population about equal to that of Leeds. Here it was estimated that one per cent. of the school population could be accommodated in this one school in the centre of the city. In Frankfurt-on-Main, a city about the same size as Sheffield, two schools, one situated at either end of the city, each contained about 350 children in twelve classes.

Of course, from the point of view of classification, a large school is capital. The children in each class are almost at the same stage, while classes may be re-distributed for each lesson, thus giving the brighter children in each subject an opportunity for advance. Again, a variety of manual work can be obtained, so that each child can take the forms to which he is best adapted and most inclined.

In cities of a size which can provide for so large a proportion of children, it is, however, obvious that a wider meaning is given to the definition ("not merely dull and backward . . . and not idiot or imbecile") under which children are certified for our English schools, and on the whole the highest stratum found in the above schools is distinctly higher than that found in England.

The absolute antithesis to this huge school is the single class centre. This obtains in the majority of American cities, and several of these have been previously described in my report on some American schools and institutions in 1914.

The "centre" usually consists of fifteen children, and is an integral part of a large primary school. The class-room is quite self-contained, and of the size usually provided for a full class of fifty children. The pupils of

this special " centre " are drawn entirely from the classes of the school of which it is part. As there is frequently accommodation for 2,000 or 3,000 children in an American primary school, it is not difficult to find sufficient children requiring special care and training to keep this class constantly filled. The children in such a centre mix with their comrades in the playground and sometimes in the Assembly Hall, so that no one is to know that a certain child is in any way different to his school-fellows. For high-grade defectives this is a distinct advantage, and may stand the child in good stead when he goes to work. On the other hand, a child who is markedly defective is singled out by his own defect rather than by the fact that he has attended any particular school. If he is a sensible and a good worker, he will be well-placed, and keep his place, no matter from what school he may come ; whereas, if he is uncontrolled and irresponsible, he will be branded by his own defect, no matter what school he has attended. For this reason the elaborate precautions taken in these little centres seem unnecessary.

A class on these lines might be useful and suitable in a small town where only a few mentally defective children exist. There are practical advantages, of course, where such a small class is opened in that the children are drawn from the immediate neighbourhood, thus enabling the authorities to dispense with guides, trams, and school dinners altogether. The advisability of omitting to provide dinners may be questioned, but it is usually found in small towns that the fathers go to their homes for mid-day dinner ; there is therefore a good meal cooked in the house, and the children do not suffer as city children do from malnutrition. Moreover, it would not, of course, be feasible in a single-class school for the children to cook regular meals.

With fifteen children only in a class, there are almost necessarily many grades, so that individual work is ensured in nearly all subjects. All work must, as a rule, be taught by the same teacher, which is sometimes a difficulty ; this is counterbalanced, however, by the facility with which a child can be transferred from mental to manual work, or *vice versâ*, just at the moment he requires it. In this small class, as there are few if any regular class lessons, a good deal of work has to be done by the child by himself. This is admirable in training self-confidence, self-control, strength of purpose, and the power to work alone.

But for ordinary purposes, the school with a roll of 120 to 130 children is really the most practicable, and combines many of the advantages of the two foregoing types, while avoiding many of the disadvantages. The classification for mental work admits of grading in reading and in arithmetic. The number of manual classes available gives considerable latitude in deciding which subjects are most suitable for different children. The children have the opportunity of changing from one classroom to another, and from one teacher to another.

Of this medium-sized school, which one might almost call the English school, there are variations in internal arrangements. The simplest plan, particularly for smaller schools, is that by which the children are rated according to their general standard ; then each class is entirely self-contained, all mental and manual work being taught in the same room by the same teacher. Of course this can only be worked where no advanced manual work is taught, but admits of a thoroughly satisfactory grounding in many forms of junior manual work. It necessitates the appointment of teachers suitably qualified to take up all branches of mental work as well as handwork. Minor changes are easily worked in order to allow any teacher especially

expert at a subject to take this subject in several classes. Where such schools are worked in connection with manual centres for older children, this is a satisfactory plan. It is, however, advisable that the upper classes should attend such a manual centre for not more than half of each day ; this creates the necessity for having such a centre large enough to accommodate the children from several schools in its different workshops. If children attend workshop more than half of each day, or if they are transferred entirely to an Elder Boys' School, some arrangement should be made by which they may return to the school to which they virtually belong for one or two half-days per week for at least the first year. By this means the continuity of the work is preserved, and the personal influence gained during previous years continues to make itself felt, until the influence of the new environment predominates.

Another plan for the internal classification which is particularly to be recommended, is the re-distribution for literary work, number work, and manual work. Thus a child may belong to a certain class B for general work. He may be good at reading and its dependent subjects, and will therefore go up into class A for that lesson to be among his peers. He may be poor at number and will need to be placed in class D for this subject, but will still be working with his equals. Difficulties of organization can be overcome in a well-arranged time-table by changing classes at playtime or after such corporate lessons as singing or drill. In this scheme the child never experiences the hopeless feeling of being the dullard of the class, and yet can even emulate the leader. Again, he is responsible for his work and conduct to his class-teacher, which will raise his feeling of personal responsibility, even when not in his own class.

Another plan which is applicable mainly in schools which take a good proportion of lower-grade children, is the division into Mental and Manual-Oral classes. To work successfully this distribution requires a roll of at least 120 children. Of the older children, all those who, being over eleven years of age, are unable to read a Standard II book, are withdrawn from the reading class and are formed into an Oral class. Here they learn conversationally in combination with pictures, drawing, and simple manual exercises, such things as normal children of that age learn from their reading books. (See chapter on Oral Work.) Half the day is occupied in this way, drill and singing being included, while the other half is devoted to manual occupations. As it is a serious and most important matter to decide whether and at what stage a child shall be withdrawn from reading, the responsibility must be taken by the Head Teacher on his personal knowledge of the individual. For this reason a testing-class has to be instituted, into which each child is admitted, and where he must be intimately observed for at least six months, and every possible help given to him before allocating him to his own place in school, either on the manual and mental side or on the manual-oral side. Of course, in every case the prescribed number of hours weekly will be given to manual training. In the case of a low-grade child it may happen that after a few days trial he is obviously a case for Preparatory Class, so he may be shortly transferred. It is advisable, therefore, that this testing-class should be taught and intimately supervised by the Head Teacher. (See Diagram, p. xxiv.)

In the mornings the fifty children forming the two oral classes would spend the whole session in manual work; there should be three groups of about sixteen

each (kitchen, workshops, and an intermediate handwork class). In the afternoon these children form two classes of twenty-five each for class work. Similarly with the 3 R (Reading, Writing, and Arithmetic) classes; the children form two groups for class lessons in the morning and three groups for manual training in the afternoon.

I have not yet seen the ideal Special School, but feel that it should be arranged somewhat on the lines of a combined open-air school and colony. It is based on the following facts: that mentally defective children are found in larger numbers in the slum districts than in the healthy, open districts; a large proportion of mentally defective children suffer from mal-nutrition, anæmia, and debility, and that defectives need an especially large amount of space for manual work and outdoor exercise.

In the vicinity of most of our towns and cities there are considerable spaces of open country within reasonable distance of the centre of the city. Land in surrounding districts is appreciably cheaper than within the bounds of a city. Why not, then, run a city Special School on open-air lines in a country district?

To begin with, a larger area of ground could be procured than would be possible in any of our crowded town districts, and this at a considerably lower figure. The difference between the sums recently paid by one Education Authority for two sites was £2000; one was in the middle of the city and the other at a distance of three miles from the centre. Deduct this from the purchase money and the saving in interest on the capital outlay will be roughly £80 per annum. This would pay tram fares of twopence per day for 80 children for six months. So the financial difference would be only a reasonable one. The school building itself would be erected entirely on the open-air school plan, each classroom opened on three

sides by means of folding glass doors, and having a light brick wall on the north side. It need not be a solid affair, for probably in a few years more modern ideas will have fashioned buildings to supersede those of which we are most proud to-day. We do not need to build for more than one generation to come. The rooms might be detached on account of the noise of manual work and kitchens, and in order to secure the maximum amount of fresh air and sunshine for each class.

A large assembly hall, which is of exceptional importance for mentally defective children, would be provided; this would be open to the air on three sides and could be used for meals. If a sleeping shed were not provided, the afternoon rest could also be taken in the hall. Manual rooms would be on the same principles. A kitchen should be provided where all the meals of the children would be cooked by the older girls who are learning cookery. This should be situated near the kitchen-garden, so that the girls' gardening would be in close connection with the needs of the kitchen.

One of the main features of the scheme would be the gardening: work on the land, digging, planting, hoeing are of incalculable value in the training, physical and mental, of the slow-witted and weedy defectives, and the intimate association of growth with use would be invaluable.

The daily journey must not be too long, but probably by arrangement with omnibus or tramway companies, cars could be reserved on the outward journey for the children.

Such a school might be known as a "Recovery School," as it is designed to improve children physically and mentally. Parents would probably offer no obstacle to their children attending such a school. It is a curious anomaly that the parents who will often enumerate at great length the bodily weaknesses of their offspring

with something like pride, will indignantly refute any suggestion that a child is mentally even a little bit dull. However, a recovery school would probably have a definite claim in proving that certain kinds of spurious defect can be almost entirely removed by healthy conditions and good feeding. One feature of such a school would be the provision of meals. A plate of porridge and a mug of milk on arrival at 9 a.m. and a good dinner about 12 o'clock would be given. As in even the poorest households tea is an important meal, it is the meal which can be dispensed with most easily in school. As the feeding is such an important part of the recovery school scheme, each scholar should be assessed at the amount which the parent could pay, but this should be at as low a rate as possible commensurate with the value of the meals. Free meal tickets can be utilized and the meals obtained in school. But no child should be debarred from entrance on account of inability to pay.

## Internal Organization

This must necessarily vary in accordance with varying conditions of all kinds in different schools. There are, however, a few points common to all schools which add to the general efficiency and the smooth working of the whole.

*Arrangement of Classes.*—This depends, of course, largely on the available staff, but on the whole it is best to allocate to each, as far as possible, the class which he specially prefers. One usually finds that there is some subject which a teacher likes teaching best of all, and undoubtedly he will teach that particularly well. The potential capacities of each must be discovered and used to their fullest extent, for it is only by utilizing the best in people that the maximum of efficiency is reached. It

is as well, too, to see which children are working best with a certain teacher, for they should be in his class when possible. This is rather an important point, for it is notorious that mentally defectives who may be constantly in trouble in one class will work well and faithfully in another class. Such children are much more sensitive than normal ones, and resemble animals in their intuition, knowing their friends and those who do not appreciate them. As the business of the school is to encourage and foster the best possible feelings of which the child is capable, and to prevent or inhibit all bad, angry, demoralizing feelings, it is essential that as far as possible his class teacher should be one for whom he entertains an especial affection and esteem. Whether the child will ever be able to read the evening paper or not, does not matter so very much; but that he should conceive a strong, lasting esteem for some one who will during those wonderfully impressionable years of a child's life, encourage, love, and continually, unfailingly expect the best of him, until this best becomes a self-respecting habit—that is vital.

Waste of potential capacity of teachers is perhaps one of the most serious and yet least visible faults in a school. Year by year there seems to be an ever increasing amount of letter-writing, filling-in of forms, and other routine clerical work to be done in each school. This, as a rule, devolves on the Head Teacher, and occupies a considerable amount of his time. Now, a Head Teacher reaches this position on account of particular skill in teaching; as soon as he becomes a Head, he is for the most part withdrawn from class-teaching, and he spends the greater part of his time in clerical work. Yet it is important that the Head Teacher should take each class in the school for lessons once or twice every week, besides being partly responsible for one class. It is important, too, that

every child should come directly under the influence of the responsible Head of the school. Especially is this so in Special Schools, where the Head Teacher has a definite voice in the question of the child's suitability for leaving or being transferred to ordinary schools, for his opinion of the child may be of the utmost value in deciding his future career. Moreover, until new teachers appointed are required to undergo a definite training before entering on their work, a good deal of supervision and help must be given by the Head Teacher.

At present we in England are not so enlightened as some of our foreign neighbours, who provide clerks for each large school for three or four sessions each week in order to do necessary routine clerical work. We may arrive at some such plan later on, but in the meantime the difficulty may be overcome to some extent by distributing the work among the staff. Each class teacher should be entirely responsible for some part of the school organization. There are various returns to be sent up, school stock and needlework stock to be requisitioned, given out, and balanced. There are dinner accounts to be made, boot clubs, penny banks, country holiday, floral decoration of school, and other routine arrangements which, though small enough singly, mount up when all must be done by one person. Moreover, many of the assistants will one day be Head Teachers, and should know and understand every detail in the working of a school. Again, the fact of being really responsible for any part of the working of a whole, is of intense satisfaction to the eager heart of a young teacher; while some of those growing older and gradually relinquishing the hope of having schools of their own, may be saved some bitter moments by feeling their value in responsibility for some part of the working of the school. A little foresight and organization will enable

each assistant to have one or two free periods per week for the fulfilment of his responsibilities.

*Progress Books.*—The infinite care and patience bestowed by the teachers for many years on these books has rendered them of great value in estimating the standard reached, and that still to be reached by each child. These books are becoming yearly more important, and have frequently to be produced when inquiries are made about different children by officials under the Board of Education and the Board of Control, so that it is essential that the greatest detail and the most accurate notes should be made in these books.

The filling in of these details is in itself an education for the young teacher, for it shows him which are the important characteristics to be noted, and the tendencies shown which must be fostered or discouraged. Each line must be filled in so accurately and so definitely that an outsider will realize the stage which the child has reached. Things which are obvious to a writer often convey little meaning to the reader. For instance, in the space for "Calculation," the word "Good" means nothing. The child may be excellent as compared to a low-grade, but bad as compared to a child of Standard I. Similarly, the word "nil" is only correct if a child really has no conception whatever of number, which is rare. Whereas a definite idea of the child's position would be given by stating exactly what he can do: "He can usually give 1 bead when asked, but never gives 2 correctly"; or "Can add 4 and 2, 5 and 3, but fails at 6 and 5 or 6 and 7." Similarly, it is equally vague to state that memory is poor or good. Whereas to state that for immediate memory he can repeat four disconnected numbers, for visual memory he can draw or describe a dress or picture with six distinctive features, or that he quickly makes

associations, but soon loses the thread,—such notes give a more definite idea of the child's standard.

It is most difficult to estimate a child's progress with any rapidity or certainty by reading through even an excellent Progress Book, so I think it would be quite a good plan to institute some kind of *Graph* for the two subjects by which we can most easily measure progress—Reading and Number. It might be arranged by according a number of points to each stage reached; for instance: 5 points for counting to 20, 5 points for manipulation of numbers to 5, and 5 up to 10, and so on. Similarly, points would be reckoned for reading: 5 for letters known, 5 for twenty two-letter words; 5 additional points up to 40 words of two letters. Similarly, for words of three letters, etc. This is only a suggestion for simplifying the means for measuring the rate of progress, chiefly for purposes of assigning children to the Manual-Oral class.

*Binet-Simon Tests.*—For obtaining a good general estimate of a child's improvement, there is no scheme simpler nor more reliable than the Binet-Simon Tests for measuring Intelligence. They have been drawn up with the greatest care by keenly interested and understanding French investigators, Binet and Simon; they have been revised and modified by expert psychologists after consideration of thousands of normal children in France, America, and England. Dr. Drummond has lately given us a full and careful translation of the account of the tests by Binet and Simon, which should be studied and thoroughly known by any one who wishes to do any testing. "Experimental Studies" is another useful book on the subject. Testing correctly is not easy, and it is an insult to any system to use it without knowing it thoroughly; tests should be practised on at least thirty to forty persons before the investigator can begin to rely on his records.

In drawing up these tests, in conjunction with doctors, school-masters and inspectors, a great many children were examined. Such things as had been noticed to be frequently known by children of any particular age, as far as possible apart from instruction, were taken as a hypothesis. When hundreds of children had been tested on this basis, the statistics were worked out. If less than 50 per cent. of children of that age failed to answer a question, it was reckoned to be too difficult for that age, and was either put into a higher age group or omitted altogether. If, on the other hand, more than 75 per cent. of the children of that age passed the test, it was reckoned as too easy for that age, and put into a lower age or omitted. So, each test is put into that age group in which between 50 per cent. and 75 per cent. of the children of that age can pass it. If the passing any test appears to be due to instruction, it has been discarded, for the object is to test intelligence by such things as a normal child will pick up naturally.

Even according to the latest revision of the Scale, the tests for the earliest ages are slightly easy, and those for the higher ages, eleven years and upwards, which have not yet been fully standardized, are slightly too difficult. The intermediate tests, those for the ages V, VI, VII, VIII, IX, and X, are most reliable, and these are the ones which concern us most as far as the mentally defective are concerned.

The tests are a scale for measuring the intelligence of the average normal child at any particular age, and if a child of that age comes considerably short of such a performance, it is obvious that he is not like other children; he is sub-normal. If a child of eight, for instance, just succeeds in answering the questions of Age V (adding in any higher points he may gain), he is, roughly, retarded

three years. This would be just the standard taken by any sensible infant school mistress: "The child is eight years old, and is only fit for a baby class." Again, if a child of ten just manages the questions in Age VII, he is obviously sub-normal, and will probably be found still in Standard I when he ought to be in Standard III or IV.

It is not, however, on account of the standardizing of the child in the first place that we are concerned here, but on account of the gauging of his progress throughout the school. It is for this that the scale is invaluable. From year to year the tests will show how many points the child has made each year, if his progress is getting slower, or if he has reached his limit. Even with a class of 25, a keen investigator will find time to test each child in his class once a year. It should be done during his birthday week, and would not occupy more than twenty minutes. The results can be entered on a graph card, and this will be of inestimable value for such children as will need to be reported to the Local Authority, for a glance at the graph will convey considerable information and will give quite definite data with which to compare general impressions, when the teacher has to report a child.

*Visitors.*—The keen teacher may want an occasional half-hour for seeing parents, which is most important for the one who is actually teaching the child. In certain foreign towns all class-teachers have a given time each week for seeing parents of their pupils; each one waits in the visitors'-room or staff-room during that period, and has a chat with any parent who comes, and will often send a message asking a parent to come up for a few minutes' chat about the child. Again, showing visitors round a school takes up a great deal of the time of the Head Teacher, and in new and popular schools tends to become quite a tax. In some of the American institutions, where

there are numbers of visitors, a student is appointed for the summer months to show ordinary visitors over the building. We can hardly arrange that, and probably would not even if we could ; but why not let the teachers take turns, say a fortnight or a month at a time, according to the size of the school and number of visitors ? The teachers, delighting in showing off their school, would feel that they were part of the corporate whole, and become enthusiastic over the whole. Of course, for special visitors this would not apply ; but any one who has visited many schools will have experienced the desire to rush through where one would prefer to have lingered, rather than keep the Head Teacher from work to which one has felt he was anxious to return. This would not happen when being shown round by one delegated for the purpose. In fine, in a well-organized school, plenty of responsibility will be given to the assistants, and it will naturally be a happy, united school.

A regular staff meeting is an excellent plan in any school, for general schemes of work and development to be discussed and individual children considered. It is slightly formal and each member can keep a note of any suggestion he wishes to make and bring it forward quite impersonally. As a rule, on a large staff some are hurrying to catch trains or others are busy elsewhere and often miss a discussion, while in others the very friendliness of each member precludes the possibility of critical discussion. Moreover, school work should be kept out of dinner-hour chats. Free discussion at a staff meeting will be helpful all round, and will often dispel any slight dissatisfaction, and promote good fellowship.

*Visiting.*—It is of the utmost value to teachers of defectives to get into touch from time to time with others doing similar work. Friendly discussion, and the more

formal conference are of incalculable importance in keeping teachers fresh, open-minded, and abreast of the times. In the schools in smaller towns, where most commendable work is being done, the teachers are bound to feel the isolation of their position and are cheered by visits from the city-dwellers, who in their turn can learn a great deal from the individuality of the little school. Visits to other schools should be strongly encouraged ; there is something to be learnt by the eager student from every school. I do not mean there is a concrete bit of work that can be imitated in its entirety next day—there is no value in that ! Neither would one adopt something seen simply because it is new. If a thing has a value in the present day it is not old-fashioned, and many a thing fails in its use because it has been tried more on account of its novelty than of its usefulness. But the value of visiting lies largely in the possibility of seeing methods at different stages. We may have thought out a certain plan or scheme for our class, eagerly looking forward to a wonderful consummation ; then we see a similar scheme which has been carried out in another school for a longer period, and some slight difference may give help with the practical working, or may show some pitfall which must be avoided, while friendly discussion may reveal further possibilities on both sides.

A definite specified amount of time should be allowed for visiting. Four half-days in the year might be granted to each teacher for visiting schools and two half-days for visiting parents. All kinds of schools should be seen, infants', girls', boys', industrial schools, and every kind of Special School and institution. Short notes must be made for every visit and filed for future reference for other visitors. Visits to Special Schools and institutions at a distance should be encouraged by allowing the teacher

third-class return fare; the Education Committee would vote this sum on the receipt of a good, useful account of any specific work.

The visits to parents may not be enjoyed by the young teachers at first, but the experience is most valuable; the homes of many of the children cannot be imagined by the uninitiated. Friendly co-operation between parent and teacher is of vast importance to the child, while some knowledge of a child's environment gives the teacher a clearer conception of his attitude towards his work.

*Assembly.*—There is nothing like the daily assembly and prayer for creating the corporate spirit. It is always a pleasure to feel one is a member of a big community, and the defectives seem to feel this atmosphere with singular intensity. Any little talk at this time will be refreshing and inspiriting. The mention of "our school" in a tone of pride is more efficacious in straightening a slouching back or untidy line than any amount of oratory or scolding. Pride in our school, our King and country, our motto, are to be induced by assembly, and ideals of hope, courage, and determination are to be instilled. But there is a limit to the endurance of all. A very few minutes, not more than seven to eight, as a rule, suffice; a short, bright hymn, a soft, real prayer, then a few words on the brightness of the morning, the blessedness of rain, attention drawn to some new picture or flower, a flag flying in the playground or neighbourhood, then the children depart to their classroom for scripture story or moral lesson. It is a fatal mistake to keep children standing too long, for, however determined they are, consciously or unconsciously, it is impossible for them to keep to the standard which they know should be the one for assembly. If we could find a thermometer to measure the moral temperature, we should probably find that it

reached its highest degree at the end of the short assembly, and gradually falls if this is prolonged either by too long a dissertation or by having to stand at attention throughout a period of Scripture or repetition. This, then, is better taken in a classroom where the desks are comfortable and the strain of attention is less.

*Events and Anniversaries.*—There are many days in the year which are associated in our minds with great people or great deeds. The stories of these are told on these occasions, and as they recur year after year, the impressions are deepened and strengthened, and they become living ideals to the children. To remember only a few, one can name Empire Day, Trafalgar Day, King's Birthday, Founding of the School, Florence Nightingale's Birthday, Captain Scott's Birthday, May Day, Midsummer Day, and Harvest Thanksgiving. There need be no bombastic self-glorification, but just an honest gladness that these were all British, and a real desire to promote the children's effort to do well because they are British also. The last three will raise the thoughts to still higher ideals, "because the goodness of God endureth yet daily."

*Duties and Responsibilities of Children.*—Every child loves to move about, to help and to be responsible; in a large class the facility for such movement is great and can be utilized as a valuable incentive and reward, while "carrying-out-ness" is strengthened.

It is best, in order to proportion out the privileges evenly, to prepare as full a list as possible of the needs of each week. Children are chosen to be monitors in each section for a week or fortnight, as the case may be, and their names placed on the list. Among the numerous monitors to whom duties may be allocated are: Piano monitor: opening and shutting piano and finding number

of hymn. Dinner monitor: to take round dinner-book for the day and collect money. Blackboard monitor: writing date on blackboard and keeping all boards clean. Cloakroom monitor: to keep order in cloakroom, and see that children keep it tidy. Playground monitor: to see that the children put their papers and peels, etc., into dustbin, and that order is observed in latrines. (This monitor is not expected to clear up after the children, but to help to see that they clear up after themselves, and are thereby trained in habits of order.) Attendance monitor: for taking number book to various classes, adding up numbers, and writing them on number board. Stock monitor: to visit each classroom on the weekly day appointed for the giving out of fresh stock to each classroom, asking teachers to write down in given note-book what they require for the ensuing week, handing this to the teacher in charge of stock, and distributing it according to order. (Even in a very small school, this method simplifies the work of the Head Teacher considerably, and helps in the balancing up of stock.) Flower monitor: to see that flowers and plants are regularly watered, and to wash vases on Fridays and put plants out in the rain when advisable. Window monitor: for opening and shutting windows when required.

By running through a day's work, many opportunities will occur for giving some child a little active responsible duty. It may be done rather slowly, in a cumbersome way, but is of special value as a definite little bit of training. Such opportunities must not be confined to the bright children, but may be well done even by the dullest with a little practice. In one of the Scottish institutions, the immense store-cupboard is entirely supervised, both as regards new stock received and distributed, and kept in perfect order by a low-grade imbecile lad who can

neither speak nor count ; yet he is thoroughly happy in being of some use in the world, and has learnt this bit of work well.

*Allowances for Good Work.*—In the case of the older children, particularly those retained after fourteen years of age, a certain allowance might be made on the work they do. Some of the girls of fifteen are of real assistance in the kitchen, and have a definite economic value, while much of the work which the boys produce is good enough to be sold at a small percentage over the price of material. In this case, it would be quite reasonable to grant the child a small sum on the completion and sale of any good piece of work. Similarly, in the kitchen, a small weekly sum might be devoted to wages for the best workers over fourteen years of age. Many a time the child feels and knows so well that his parents consider him a useless encumbrance during that last year or so of his school life, and his school work is spoilt by this knowledge. If, however, he could earn a small sum, even sixpence or a shilling a week, it would ensure him doing his best at work and would give him a feeling of self-respect and self-reliance, and ensure his putting out his best efforts, which, after all, is the object for which we strive.

*Classrooms.*—I wonder if school architects will ever realize that classrooms ought to be considerably larger than the minimum size required by regulation. Large, sunny, airy classrooms are really economical in the long run, for work would be better and children brighter, happier. And surely the whole reason for the existence of a school is that the children shall improve physically and mentally.

The classrooms should be as bright and pretty as it is possible to make them. Too much stuff must not load

the walls and shelves, for they simply harbour dust, but a few pretty work specimens, bright windows and sketches on the corners of the blackboards give an appearance of interest. If possible, flowers should always be found on the teacher's desk, on the mantelpiece, or other shelf. Those who visit a good deal are impressed by the brightness imparted to an otherwise dingy room by a few flowers. It may be rather an expense, but the wise teacher knows it is an investment whose interest is found in added happiness to the class. Bulbs are a wonderful source of beauty and daily interest; mustard and cress show a pretty spot of green; while the bursting of the spring buds of horse-chestnut, beech, ash, and other twigs gladden the children and the classroom.

*Country Schools.*—In some schools a correspondence is carried on between the children of the slums and those of some country district. The country school gathers flowers periodically and sends them to brighten the slum schools. This is a scheme which admits of wonderful development with increased happiness to both the givers and to the receivers. Throughout the greater part of the year the country school, elementary, secondary, or kindergarten, could easily send a monthly box to an associated school. Daisies for Empire Day; primroses, cowslips, and bluebells in spring; moon daisies, honeysuckle, whinberries, blackberries, hips and haws, nuts, horse-chestnuts, autumn leaves and winter buds—all these and many more are easily procured in many country districts, and in a short time the town children would look forward to these boxes. The postage could be paid by the town children's halfpence, and this will teach them to appreciate the gift, while the little country-people will love the letters of thanks and will learn how joyful it is to be able to give.

Pictures are a great help, too, in making the classroom a happy place, but need to be added gradually and to be spoken of constantly. The prettiest and brightest pictures should hang on the wall facing the children, so that they may enjoy the full value of what is primarily intended for them. Again, as soon as a new picture comes in, it must be thoroughly explained and discussed, so that no first erroneous impression becomes fixed in the child's mind. Finally, let us remember that our classroom is probably the most beautiful room that our children ever enter. May the half-frightened, vaguely expectant expression of the new-comer be quickly transformed by the glad brightness around into a look of pleasure and real happiness.

"Happiness first, all else follows." This is the motto of one of the finest institutions in the world, and I really believe that it is on account of the deliberate intention of the authorities to make all the boys and girls happy, that so large a measure of efficiency follows. It means real happiness in the wide, modern sense, activity, usefulness and purposefulness (if one may use so clumsy a term to describe rather an abstract feeling) under wise supervision and guidance. We do not require to be told nowadays that reward without effort and acquisition solely on account of desire do not promote happiness. Activity stimulated by desire creates effort. The reward lies as much in the realization of effort as in the consummation of the desire.

It is for you, young teachers, that these few pages have been written to help you just a little over the early pitfalls of your work; if you forget everything that you have ever read, will you remember this one thing every day of your life? Your children will never succeed, will never even improve much, unless they really want to do

so. They must do their own learning. The essential and valuable training that you give them must aim at inducing effort and sustaining it. They must have ideals towards which their efforts are directed, perhaps low at first, but ever rising. Here, then, is the perfect round: Being happy leads children to wish to do well, therefore to make effort; while the effort to do well makes them happy.

So we have it for them all the way through:

"HAPPINESS FIRST—ALL ELSE FOLLOWS."

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BOOKS OF REFERENCE.


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|---|---|
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| Maennel . . . . | "The Auxiliary Schools of Germany." |
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THE END

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